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THE INCIDENCE, INCUBATION PERIOD, AND SYMPTOMATOLOGY OF HOMOLOGOUS SERUM JAUNDICE*

BY

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Jaundice has been recognized with increasing frequency as a sequela of transfusion with whole blood, plasma, or serum (Memorandum, Ministry of Heath, 1943 ; *B.M.J.*, leading article, 1944, 1945). It is generally agreed that such jaundice is indistinguishable from, and of the same aetiology as, the jaundice following the use of convalescent serum, vaccines containing human serum, and syringes contaminated with human blood (Memorandum, Ministry of Health, 1945). This jaundice is commonly called homologous serum jaundice.

Since certain of the cases reported after transfusion have proved fatal it appeared important to determine, if possible, the incidence of this complication, since it might well be that the risk of hepatic necrosis was greater than the risk incurred by withholding transfusion. Records of blood products issued from the N.W. London area since 1940 being available, a follow-up of patients who had received transfusions in this area was therefore instituted in 1944 with a view to determining the incidence of homologous serum jaundice following transfusion, its incubation period, and the symptomatology.

Method of Investigation

Follow-up

In connexion with an earlier investigation, blood, serum, or plasma issued from the depot carried a label. The hospital receiving and using the bottle was asked to fill in answers to certain questions on the label before returning it to the depot. The returned labels were filed ready for reference. The greater part of the information so collected was not relevant to the present inquiry, but the batch number of the material used was entered on the label before issue, and subsequently the name of the hospital and patient, so affording means of following up all those transfused.

In view of the latent period that may occur before the development of jaundice no personal follow-up of a patient was attempted until five months after the date of the transfusion. The hospital was then visited and the patient was interrogated if still in hospital. If discharged, his address was obtained and he was sent a follow-up letter (Appendix I) asking, among other things, whether he had had an attack of jaundice. If an affirmative answer was received the patient was visited and a more elaborate form (Appendix II) was filled in. In two cases, when the patient lived at a great distance, the general practitioner was asked to complete this form. For obvious reasons it was impossible to include cases of subclinical jaundice in a follow-up of the character described. The notes of all patients who died between forty days and seven months of transfusion were checked to determine if death was due to hepatic necrosis, and to ascertain that no attack of jaundice had occurred in the intervening period. At the time the investigation was started the possible significance of a syringe in the transmission of an icterogenic agent was not appreciated, and no note was made as to whether casualties had, for instance, received pentothal (Darmady and Hardwick, 1945) or penicillin (Turner, 1946). The data were not available to allow a follow-up of the donors of batches which proved to be icterogenic, in order to determine if they had recently had jaundice.

Products Transfused

In the first instance, patients who had received serum and plasma were followed up. In many cases such patients had received blood in addition. The serum and plasma came from 400 different pools, varying in size from 30 to 200 litres. Subsequently a series of patients who had received only blood was studied. It is unfortunate that all patients cannot be placed in clear-cut groups as having received only one product, but the majority of serum and plasma transfusions were given to air-raid casualties treated under emergency conditions. Such transfusions were an essential life-saving procedure, and were not given as part of a planned experiment.

Geographical Distribution of Patients

An attempt was made to follow up all patients known to have been transfused with serum or plasma in 78 hospitals in the N.W. London area between 1940 and July, 1945. Patients receiving only blood in 1944 and the first half of 1945 were traced from 23 hospitals. A few earlier patients were included in this group.

Control Series

Simultaneously with the follow-up of patients receiving whole blood a survey of a control group was made to assess the incidence of jaundice in the non-transfused hospital patient. This group was composed of patients in the same hospital at the same time as the patients given blood. For every transfused patient a control was selected of the same age group, sex, and, if possible, in the same ward, but regardless of diagnosis. The age groups taken were 0–19 years, 20–39 years, 40–59 years, and 60 years and over. No control cases were followed up until five months after discharge from hospital. They were then either visited or written to, asking them to complete a questionary not unlike that sent to patients who had received transfusions.

Character of Patients

The majority of patients given serum or plasma were civilian air-raid casualties ; this accounts for the large proportion of deaths within two months. Death in many cases occurred within a few hours, or at most days, of receiving a transfusion. Most of the patients given whole blood were maternity and gynaecological cases ; a large group of patients with haematemesis, and other miscellaneous medical and surgical cases, were, however, included.

Results of Follow-up of Patients Given Serum and/or Plasma

In this group a total of 2,040 patients were followed up. Since jaundice occurred after both serum and plasma no distinction is made between the two in tabulating the results, nor is any distinction made between patients who also received blood and those who did not. It may be stated, however, that a more detailed analysis of the figures showed that jaundice occurred with any combination. The numbers involved were

* A report to the Medical Research Council from the North-West London Blood Supply Depot.

too small to allow conclusions to be drawn as to whether any combination was more likely than another to cause jaundice. The results are shown in Table I. Of the 2,040 patients 9%

TABLE I.—*Particulars of Patients given Serum and/or Plasma*

Total no. of patients followed up			2,040
No. of patients not traced			186
Proportion not traced			9%
No. of patients traced			1,854
No. of patients who died within five months of transfusion			800
Proportion of traced patients who died within five months of transfusion			43%
No. of surviving patients upon whom the incidence of jaundice is based	1,054	(100%)	
No. of patients with no history of jaundice within five months of transfusion	963	(91·4%)	
No. of patients who developed jaundice within five months of transfusion	77	(7·3%)	
No. of patients who developed jaundice, but doubtful if due to transfusion (See Appendix III)	14	(1·3%)	

could not be traced. A much larger proportion—43% of those traced—had died before it could be determined whether or not they would develop jaundice after their transfusion. The time at which death occurred after transfusion in the 800 patients who died before the five-months period was complete is shown in Table II. The observed incidence of post-transfusion jaundice following serum and plasma has therefore to be based upon approximately half those originally exposed to risk. The great majority of deaths—769—however, took place shortly after transfusion, and there is no reason to suppose that the inevitable absence of evidence relating to them would affect the relative incidence, or that if they had lived they would have been either more or less likely to develop jaundice than the survivors. Of the surviving 1,054 patients 91.4% gave no history of jaundice within 5 months; 77 (7.3%) gave a history suggestive of homologous serum jaundice; and 14 (1.3%) developed jaundice which could be attributed to other causes, such as malignant disease or exposure to a case of infective hepatitis (see Appendix III).

TABLE II.—*Analysis of Time of Deaths*

Time	Deaths	
Under 2 months after transfusion	769	(96·2%)
2–3 ,, ,, ,,	16	(2·0%)
3–4 ,, ,, ,,	5	(0·6%)
4–5 ,, ,, ,,	10	(1·2%)
	800	(100%)

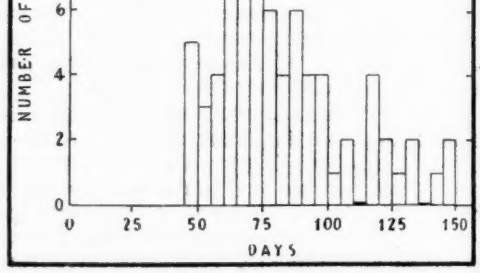
The 31 patients who died between two and five months after transfusion had time in which to develop jaundice, but were not exposed for the full five months. If, however, these 31 patients be debited with a full exposure, the observed incidence rate of 7.3% would only be reduced to 7.1%, so that they can make but little difference to the upshot.

The untraced cases raise the more difficult point whether such a patient is more or less likely to have had jaundice. For example, it might be more difficult to trace a patient who had died, and such a patient might have died of jaundice. With these provisos the figures show an incidence rate of jaundice of 7.3% within five months of transfusion with serum and/or plasma.

Certain pools of both serum and plasma were found to be more icterogenic than others, although in no case was it possible to trace every bottle of one particular pool. For example, of 29 traced patients transfused from one pool of serum (LS 6), 9 (31%) gave no history of jaundice, 9 (31%) subsequently developed jaundice within five months of transfusion, and 1 (3.4%) had a doubtful attack. The remaining 10 patients died within five months of transfusion. In all, 38 bottles were involved, 13 (30%) being given to patients who did not develop jaundice, 11 (28%) to the patients who did, and 1 (2%) to the patient who had the doubtful attack. The remaining 13 bottles were given to the patients who died. In contrast, only 1 or 2% of the patients transfused from other pools subsequently developed jaundice. To some slight extent, but not entirely, this may be attributed to the fact that as soon as the risk of jaundice was appreciated, when two or more patients were found to have developed jaundice following transfusion from any one pool, the remaining bottles were withdrawn from circulation, thus curtailing the further risk of jaundice.

Character of Jaundice

Of the 77 cases of jaundice investigated, only one was serious, the patient being in a comatose condition for several days. No deaths occurred among the proved cases of post-transfusion jaundice, and two occurred in the doubtful group, one of these being a patient with carcinoma of the bronchus and the second an old man of 86, said to have died of senile decay, with jaundice and bronchitis as secondary causes. The ages of the 77 patients developing jaundice varied from 4 to 80 years, 30 patients being males and 47 females. The incubation period varied from 45 to 150 days, the majority of cases occurring 60 to 90 days after transfusion (see Graph).



The incubation period in homologous serum jaundice

Symptoms

The incidence of symptoms other than jaundice in 77 cases of jaundice is shown in Table III.

TABLE III.—*Incidence of Symptoms*

Vomiting	41	Urticaria	5
Depression	20	Joint pains	19
Skin rashes	16		

Seventeen patients complained only of slight nausea or lassitude accompanied by pale stools, dark urine, and a yellow tinge of skin and sclerotics.

Results of Follow-up of Patients Given Whole Blood

In this group 1,284 patients were followed up. They received between them 3,468 bottles of blood. The results are shown in Tables IV and V. The number of patients surviving upon whom the incidence rate is based was 891, receiving between them 2,278 bottles of blood. No patient receiving whole blood developed frank homologous serum jaundice. Notes on 6 doubtful cases are shown in Appendix IV.

TABLE IV.—*Particulars of Patients given Whole Blood*

Total no. of patients followed up (No. of bottles, 3,468)			1,284
No. of patients not traced (No. of bottles, 404)			170
Proportion not traced			13%
No. of patients traced (No. of bottles, 3,064)			1,114
No. of patients who died within five months of transfusion (No. of bottles, 786)			223
Proportion of traced patients who died within five months of transfusion			20%
No. of surviving patients upon whom the incidence of jaundice is based (No. of bottles, 2,278)	891	(100%)	
No. of patients with no history of jaundice within five months of transfusion (No. of bottles, 2,248)	885	(99·4%)	
No. of patients who developed jaundice within five months of transfusion (No. of bottles, nil)	Nil		
No. of patients who developed jaundice, but doubtful if due to transfusion (No. of bottles, 30) (See Appendix IV)	6	(0·6%)	

TABLE V.—*Analysis of Time of Death*

Time	Deaths
Under 2 months after transfusion (No. of bottles, 679)	192 (85%)
2–3 months after transfusion (No. of bottles, 36)	13 (5·8%)
3–4 months after transfusion (No. of bottles, 54)	13 (5·8%)
4–5 months after transfusion (No. of bottles, 17)	5 (2·2%)
Total	223 (100%)

Among patients receiving blood a larger proportion have been untraceable than among the patients receiving serum and/or plasma. The death rate in this group, however, is lower, and the observed incidence of post-transfusion jaundice is therefore based upon a larger proportion of patients exposed to risk than in the previous group.

Controls

In this group no case of jaundice within five months of discharge from hospital was noted, although two patients developed jaundice ten months and five and a half months respectively after discharge. Neither of these could give any history of contact with a case of jaundice. Both complained of vomiting, depression, and dark urine accompanied by icterus; and in each case the attack was mild. Results are shown in Table VI. Although the death rate in this group

TABLE VI.—*Particulars of Control Patients*

Total no. of patients followed up	1,284	
No. of patients not traced	408	
Proportion not traced	32%	
No. of patients traced	876	
No. of patients who died	65	
Proportion of traced patients who died	7%	
No. of surviving patients upon whom the incidence of jaundice is based	811	(100%)
No. of patients with no history of jaundice within five months of discharge from hospital	809	(99·6%)
No. of patients who developed jaundice within five months of discharge from hospital	Nil	
No. of patients who developed jaundice six months or more after discharge from hospital	2	(0·4%)

is low, the evidence on which the figures are based is poor owing to the high lapse rate—i.e., persons who could not be traced.

Discussion

The results recorded above show an incidence rate of 7.3% of cases developing jaundice after transfusion with serum and/or plasma. No proved case of jaundice following transfusion with whole blood was found. The number of patients given whole blood was smaller than that given serum, but the figures suggest that the risk of homologous serum jaundice is less with whole blood than with pooled serum and/or plasma.

Though no comparable series has been reported, the present findings are in accord with those of other workers, who have almost all been concerned to describe actual cases which developed jaundice after transfusion rather than to assess the incidence of this complication. Jaundice following whole blood appears to be less frequent than jaundice following pooled serum and/or plasma.

Beeson (1943) reported four cases in which jaundice resulted from small transfusions of whole blood within four months, and three cases after the use of plasma. Steiner (1944) records three cases following whole blood alone and two following plasma also. Rappaport (1945), in a series of 33 cases of jaundice after transfusion, mentions two who were given blood only. Loutit and Maunsell (1945) found no case of frank homologous serum jaundice in a follow-up of a selected series of 213 blood transfusions. They record two doubtful cases only. Apart from the cases mentioned above, many which followed the use of pooled serum and/or plasma, either for transfusion or other purposes, have been reviewed at intervals (Memorandum, Ministry of Health, 1943; Bradley *et al.*, 1944; *B.M.J.*, leading article, 1944; *B.M.J.*, leading article, 1945).

The evidence available therefore supports the conclusion to be drawn from the present observations—namely, that jaundice occurs more commonly after serum and/or plasma than after blood. It is obvious, however, that it is easier to incriminate a batch of serum or plasma as the cause than it is to incriminate a bottle of blood, since multiple cases may occur after the use of a batch of the former material, while in the case of blood it is extremely rare for one donor to give blood to more than one recipient within an appreciable time. Unless a single donor's blood results in jaundice of the recipient on repeated occasions it is unsafe to assume that the blood is icterogenic.

It appears probable, on the other hand, that the difference in incidence is not due to any inherent differences between blood and serum or plasma, but rather to the fact that serum and plasma are prepared from big pools and therefore many more patients are likely to receive the icterogenic agent from one donor than when all the affected material is given to one patient, as in the case of a blood transfusion.

Loutit and Maunsell (1945) have shown that no case of homologous serum jaundice was detected when 99 individual sera were each injected into an average of six normal recipients. Transmission experiments have shown, however, that a single serum may be an effective transmitter of jaundice (MacCallum and Bauer, 1944; Neefe *et al.*, 1944; Paul *et al.*, 1945).

The findings of the present inquiry, therefore, emphasize the recommendation of Loutit and Maunsell (1945) that sera for prophylactic use should preferably be individual sera, and that for transfusion purposes pools should be as small as possible. The present observations also stress the importance of labelling with the batch number all material issued, of keeping accurate records of its destination and use, and of creating some machinery for notifying to the regional transfusion officer cases of jaundice following transfusion, so that if necessary the suspected serum or plasma may be withdrawn from circulation. Since certain batches are known to have infected 57% of the cases exposed (Bradley *et al.*, 1944), withdrawal of an infected batch at an early stage should do much to reduce the incidence of jaundice. At present this somewhat cumbersome procedure appears essential, since icterogenic batches cannot be detected by any laboratory or animal test.

The incubation period accorded with that previously noted, varying from 45 to 150 days, the majority of cases occurring between 60 and 90 days after transfusion—so demonstrating yet again the remarkable difference between the incubation period of infective hepatitis and homologous serum jaundice.

The character of the jaundice in the 77 cases here recorded has already been discussed in detail. It was, with one exception, mild. This is in accord with the majority of other observers (Bradley *et al.*, 1944; *B.M.J.*, leading article, 1944; Loutit and Maunsell, 1945), but it must not be forgotten that a definite mortality after both transfusion jaundice and "syringe jaundice" has been noted (Droller, 1945). Few, if any, of the cases were bad enough to go to hospital or to be attended closely by their own doctor; the account of their symptoms is therefore neither detailed nor extremely reliable. It does not differ in any striking way from that described by previous observers (Steiner, 1944; Rappaport, 1945).

Summary

The results are given of a follow-up of 2,040 patients transfused with pooled serum and/or plasma, of 1,284 patients transfused with whole blood only, and of 1,284 control patients, not transfused, who were in hospital at the same time as those receiving whole blood.

The incidence of jaundice in the patients receiving pooled plasma or serum was 7.3%. No patient receiving whole blood developed frank homologous serum jaundice. There was no case of jaundice among the controls within five months of transfusion.

The character of the jaundice was with one exception mild. The symptomatology and incubation period noted were in accord with previous accounts.

It is suggested that to minimize the risk of homologous serum jaundice after transfusion the following procedure should be adopted: (i) human serum for prophylactic purposes should not be pooled; (ii) for transfusion purposes only small pools should be used*; (iii) all blood products issued should carry an identification number; (iv) records should be kept of the number of any bottle given to a particular patient; (v) machinery should be maintained and strengthened for the notification to the regional transfusion officer of jaundice following transfusion, thus enabling icterogenic material to be withdrawn from circulation.

* We understand that only small pools are now used by the Ministry of Health for the preparation of blood products.

APPENDIX I

MEDICAL RESEARCH COUNCIL

N.W. London Blood Supply Depot,
The Social Centre,
Farnham Road,
Slough, Bucks.
Telephone: Slough 22078 and 20291.

Dear ,

We are following up all the people who have been given a transfusion of blood or plasma in this area as we are anxious to know how much benefit they have gained from this treatment. We note from your hospital records that you received a transfusion at ..... Hospital. We should be most grateful if you would write and tell us how you have kept, whether you have had any colds, rheumatism, skin rashes, bilious attacks, jaundice, or any other complaint. It would be helpful to us if you could reply filling in the attached form, giving us your present address, in the enclosed stamped addressed envelope as soon as possible.

With many thanks, yours sincerely,

Medical Director.

Name .....

Address .....

Have you had any Colds ?.....

Rheumatism ?.....

Skin rashes ?.....

Bilious attacks ?.....

Jaundice ?.....

Any other remarks .....

How is your general health ?.....

Signature.....

APPENDIX II

MEDICAL RESEARCH COUNCIL: JAUNDICE COMMITTEE
TRANSFUSION FOLLOW-UP

Name ..... Age ..... Sex .....

Address .....

Letter dispatched .....

Reason given ..... Immediate reaction .....

Date of death, if any ..... Reason given .....

P.M. findings .....

Date	Place and Hospital	Blood	Serum	Plasma	Unknown	Remarks

Previous attacks jaundice:— Date .....

Present attack:—

Date first symptom .....

Urticaria ..... Rashes ..... Joint pains; stiffness .....

Vomiting ..... Stool colour ..... Urine colour .....

Depression ..... History .....

Contact with case of jaundice in 6 weeks before onset:—

At home . At work . In town or village .

(Cross out what does not apply and tick or underline what does)

Household contacts at onset:—

	Number	*Ages*	*Previous Jaundice**	*Subsequent Jaundice**
Male:				
Female:				

* Fill in age of contact concerned and date of attack.

Arsenotherapy ..... Yellow fever vaccine .....

Measles serum ..... Alcohol habits .....

APPENDIX III: DOUBTFUL CASES OF JAUNDICE FOLLOWING SERUM AND/OR PLASMA

L. B. (aged 50).—Died jaundiced 4½ months after transfusion. Carcinoma of bronchus.

F. C. (aged 56).—Carcinoma of rectum. Considerable liver metastases. Died 5 months after attack.

F. D. (aged 71).—Developed jaundice 3 months after transfusion. Diagnosed as obstructive jaundice. Cholecystogram showed definite evidence of cholelithiasis.

C. F. (aged 70).—Jaundice developed more than 5 months after transfusion.

J. H. (aged 55).—D. U., ? malignant. Seen 7 months after attack and still jaundiced. Followed up again 19 months after attack; still getting attacks of jaundice.

E. L. (aged 15).—Gunshot wound. Definite liver damage. Still gets "liver attacks."

D. N. (aged 38).—Jaundice developed 178 days after transfusion.

F. P. (aged 57).—Jaundice developed while in Redhill Hospital. Diagnosed as carcinoma of head of pancreas. Cholecystenterostomy performed.

J. R. (aged 17 months).—Jaundice developed 10 months after transfusion.

W. M. (aged 28).—Jaundice developed 13 months after transfusion.

E. R. (aged 52).—Refused to give any information about attack.

F. T. (aged 36).—Attack reported by his doctor to be of epidemic origin.

J. T. (aged 87).—Two members of the family subsequently developed jaundice 28 to 30 days after onset of patient's attack.

H. T. (aged 20).—Attack said by his doctor not to have been jaundice. ? diaphragmatic pleurisy.

APPENDIX IV: DOUBTFUL CASES OF JAUNDICE FOLLOWING WHOLE BLOOD

A. B. (aged 26).—P. P. H. Jaundice developed only 17 days after transfusion. No infective source known. Donors had no history of jaundice.

P. P. (aged 46).—Anaemia. Jaundice 8 months after transfusion. Lumbago and pale stools only. No icterus.

E. M. (aged 30).—Oophorectomy and appendicectomy. Jaundice 68 days after transfusion. ? true attack. Had had similar attacks previously. Jaundiced on only one previous occasion.

C. S. (aged 58).—Aplastic anaemia. Transfused March and April, 1944, and July/September, 1944. Jaundice Nov. 15, 1944. Diagnosed at Guy's Hospital as acholuric jaundice. Splenectomy performed Dec. 19, 1944. Condition improved.

M. T. (aged 29).—Threatened abortion. Jaundice developed 1½ months after transfusion.

T. D. (aged 30).—Haematemesis. Date of onset of attack doubtful. Definite evidence of an infective source. Donors had no history of jaundice.

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The European Regional Office of U.N.R.R.A., has issued from 11, Portland Place, London, W., a series of leaflets, each of which describes the relief and rehabilitation organization at work in one of some ten countries of Europe. Further, to mark the occasion of the recent fifth council session of U.N.R.R.A. in Geneva a special review has been published devoted exclusively to the work of the European missions, and giving for each country the amount of supplies which had been sent up to the middle of 1946. The largest recipients of medical and sanitation supplies were Yugoslavia and Poland, each of which received this form of help to the value of over 27 million American dollars.

POST-OPERATIVE ACTIVITY AND RESUMPTION OF NORMAL MOVEMENT

THEIR INFLUENCE ON EMBOLISM AND THROMBOSIS

BY

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In recent medical literature there is a definite tendency to advocate an increase in activity after operations, especially laparotomies, as a prophylactic against complications such as embolus. Various systems of exercises to be carried out daily are suggested; most of them need the personal supervision of the nursing staff and include massage, being thus inevitably restricted in application and time-wasting for the attendants.

When I started obstetrics in the Rotunda Hospital in 1902 I very soon recognized that many of the women cared for in the extern maternity department were up and about their rooms from the second day, and puerperal complications were probably less frequent in that department than in the intern. Jellett (1912) in his first Rotunda Hospital report (1910–11) says: "All patients who have had a normal confinement without perineal laceration and suture may be allowed and encouraged to sit up in bed after the first twelve hours. Further, they may get out of bed to pass water if they wish to do so. After 48 hours they must get out of bed to pass water at least twice in 24 hours, unless their general health contraindicates their doing so. . . . After 72 hours they may take a few steps . . . or sit for a few minutes . . . the time they remain up being gradually increased each time they leave bed." In his second report he says, "I have made no change in this plan, and I have found it most satisfactory. I cannot find the smallest evidence that it has been anything but beneficial to the patients."

In my first report (1919–20) I stated (FitzGibbon, 1921): "All cases showing a rise of temperature are got to sit up in bed frequently during the day, to go on to their hands and knees to micturate, or even to get out of bed for this and for defaecation. I think this method of promoting uterine drainage is of the greatest importance, and far more to be depended upon that the mere elevation of the top of the bed." I repeat this in my second report (FitzGibbon, 1922), adding, "although all cases are encouraged to do this from the first day of the puerperium"; and in my third report (FitzGibbon, 1923a) I say, "Sitting up does not mean Fowler's position, which I think is very little use for uterine drainage. The position should be complete sitting, with the body a little forward of the vertical; it should never be maintained for long or after the patient feels . . . tired. She should then lie down and rest completely. Ten or fifteen minutes at a time are quite sufficient, and the patient should move herself." During my seven years as Master one death was certified as due to pulmonary embolus. The patient died seven hours after delivery, which was complicated by manual removal and post-partum haemorrhage; the uterus was plugged but the bleeding was not controlled.

Appreciating the fact that mobility was beneficial in the morbid puerperium, and prophylactic against complications after normal confinements, it was a short step to the adoption of the same principles in the after-treatment of obstetric operations, such as pubiotomy, Caesarean section, and suture of the perineum. In my first report, dealing with pubiotomy I say, ". . . the belt was discarded on the fourth day and the patient allowed out of bed on the sixth day"; while in my third report I say, ". . . the patients are not bound up in any kind of belt, but are encouraged to move and are able to walk perfectly in 10 to 12 days." Patients who had undergone Caesarean section sat up freely, and laceration of the perineum was treated as though non-existent. Extension of the principles to the post-operative treatment of all gynaecological cases naturally followed rapidly.

Essentials to Success

In the institution of bodily activity after operation there are no specified or routine exercises to be carried out; these only impress the patients with the fallacy that movement must be carefully controlled and possibly entails risk. The aim is to restore, from the time patients return to consciousness, the natural movement of their bodies as well as of their limbs to obtain restful positions just as they did before operation, or as they would do if merely confined to bed for some minor ailment, and thus to restore the activity of the trunk muscles. To obtain this there are several essentials, the most important being to gain the confidence of the patient so as to counteract the ingrained fear of doing harm or breaking down the stitches. This will be effected only by the display of absolute confidence on the part of the medical attendant, combined with the assurance that the method is based on practical experience and has been proved to be beneficial; also that the advice may be followed despite what others say or think, or the patient's own knowledge or personal experience of wounds that failed to heal owing to reputedly injudicious actions.

I would like here to state my conviction that no wound that has been efficiently sutured in the first instance can be broken down by any muscular activity. A continuous suture may have been cut while being placed, and a low sepsis or haematoma in the wound may prevent healing from the start; but even meteorism, vomiting, or coughing will not break down a healthy sutured wound, and I think this is borne out by the state of wounds that have to be reopened during the first few days after operation. Advanced age and debility, rather than being contraindications, are reasons for earlier and more insistent adoption of the principles.

Next it is essential that control of the patients should be started from the time they are returned to bed, and that while they are in a semiconscious state they be directed to get into and be retained in positions of complete relaxation and the normal positions of rest. This depends entirely on the nursing staff; it does not call for constant personal attention, but can be carried out in conjunction with the ordinary routine work in the ward. For the first 24 hours it is not enough to be able to say the patient is not complaining; if distorted and twisted positions are adopted the patient must at once be replaced in a position of restful relaxation.

The Method in Practice

To define the whole procedure I shall describe a case after laparotomy. As I am engaged in gynaecology and obstetrics, what I say applies primarily to that branch of surgery; but much of it is applicable to general surgery, and is adopted by my colleagues in hospital, where we work in a common female surgical ward with the same sister and nursing staff, and thus the influence of one patient on another takes effect. I apply exactly the same principles to all cases—abdominal operations, with or without drainage, and vaginal plastic operations. Patients are not kept in bed during the days before operation, the aim being to admit them at most two nights before.

Closing the Abdomen.—The abdominal wound is closed with three continuous sutures of plain catgut. No tension sutures are inserted, and neither do my colleagues use them. The skin is closed with a continuous No. 0 plain catgut suture. Two 4-inch (10-cm.) strips of 1-inch (2.5-cm.) strapping are laid across the incision, and then three or four layers of gauze covering the line of suture. This is covered by a sheet of plaster 5 by 7 in. (12.5 by 17.5 cm.) laid over the abdomen. A band of 3-inch (7.5-cm.) strapping is placed smoothly along the top of the sheet of plaster and running a short way round the flank. The dressing is not moved until the fifth to seventh morning. When the abdomen is drained through the lower angle of the wound a few extra layers of gauze are placed over the tube and the lower edge of the plaster and kept in place with strapping and a split "T" bandage. After vaginal operations no form of tampon or even drain is inserted; the vulva is covered by a pad held with a "T." bandage. I mention these details to emphasize the fact that I take no precautions against rupture of the scar; in fact the suture material used is the least durable type. My objection to tension sutures and clips is that they cause pain in the skin if they receive the least traction or displacement, and this inhibits movement. An abdominal binder is used for only twelve hours while the patient is unconscious and has to be moved; it is merely to prevent the strapping being displaced before adhering firmly.

Position After Operation.—When the patient leaves the table she is put on the trolley in exactly the same position as she will be placed in bed—that is, in complete flexion on her side.

She is lifted into bed lying on one or other side; her hips are pulled well out to the side of the bed, her shoulders are in about the middle line of the bed, her thighs and knees are flexed, the upper knee higher than the lower. Her lower shoulder is slightly posterior to the spine, so that the whole body has a tendency to fall over into a prone position. The arms are flexed in front of the body, and they and the flexed knees prevent pronation. The head is well flexed forward; it rests on a full pillow which is not under the shoulders, and the side of the face lies on the pillow so that the mouth is slightly dependent. The patient is left in this position, and need be only casually watched until the deep anaesthesia begins to pass off.

When it is noticed that she is beginning to move a nurse should stand by, and if the patient vomits she has only to place a hand on the upper shoulder so as to direct any movement forward. All vomitus will be ejected and flow out of the mouth

FIG. 1.—Position of patient when returned to bed. Lateral decubitus; limbs flexed; upper knee flexed and forward.

owing to its dependent position, and thus keep the airways clear; and as the patient returns more to consciousness she instinctively raises her head and shoulders and turns more laterally to aid the act. In due time she will begin to roll over towards her back, and if left alone will end by turning her shoulders but not her hips. She must not be allowed to remain in this twisted position, as it results in painful groups of stiff muscles which are a most productive factor in the subsequent disinclination to move. The nurse should go behind her and tell her distinctly and repeatedly, "Turn over; right over on the other side"; at the same time pushing the hips. When the patient responds the nurse goes round the bed and, telling her to lift her hips out to that side of the bed, assists her in doing so, settles her shoulders and head, draws the pillow in front of the face, thus placing her in the lateral flexed position opposite to that in which she was returned to bed. The patient settles down again to peaceful sleep. This may have to be repeated two or three times in the course of the next few hours, after which she is sufficiently awake not to adopt distorted positions. If she tends to lie flat on her back, she should not be allowed to remain so for long but be told to turn on her side and get comfortable, and she will generally respond and herself assist in being moved. Urination and sedatives will be referred to later.

Day-to-day Progress

First Day.—During the first day little need be done with a patient who is co-operative; she has probably already been out of bed. In the morning she is asked to sit up in bed, and is assisted and shown how to do so properly. She gets into comfortable relaxed positions, moves up on her pillows, or props herself laterally on her elbows to take drinks from her bedside table. She frequently through the day partly sits up, with extra pillows, for short periods, but spends most of the time lying down. She is allowed to move and twist about in bed as much as she likes, and requires nothing further than not to be told, "Don't: you must not do that."

In the case of the apprehensive patient, the fear of doing harm is far more the inhibiting cause than pain. Constant reassurance must be given on this point. When she adopts distorted postures she must be moved out of them and to some extent coerced to assist herself. The primary debility of the patient is not a governing factor but only a limiting factor in the duration of voluntary effort, and many of the most debilitated patients are the most co-operative. I recently had a case of profound and continuing uterine haemorrhage needing immediate anaesthesia and control at 9 p.m. Next morning I got the patient to sit up in bed of herself—just up and down again; she felt giddy and her head swam, but she continued to sit up and go down again through the day, and next day got out of

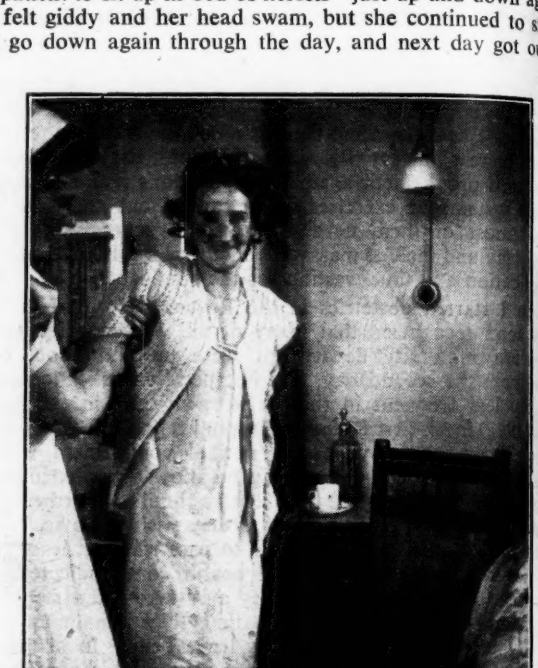

FIG. 2.—First morning after operation for repair of complete laceration of perineum. Patient had been out of bed on the first night.

bed to urinate. A week after operation a blood count showed R.B.C. 1,250,000, Hb 20%; but during that time she was out of bed and even sat up a few times for 15 or 20 minutes in a chair.

Second Day.—With the co-operative patient the regimen is usually well established during the second day; in the majority of instances she has already been out of bed, even if only to stand for half a minute. She is asked to sit up in bed, and if she has not done so or does not do so properly she is shown how. The sister is on duty in hospital and in private homes I visit in the morning; but even in hospital this has often to await my arrival. It is surprising how often it is necessary to teach even the most willing patient. This is usually and is better done on the first day, and should not be deferred beyond the second day. Sitting up should be done in the following way:

All impedimenta are removed; nothing should be left except the head pillows. The bedclothes are turned down to the hips. An arm is put behind and round the patient's shoulders, taking their weight, and she is asked to assist herself to sit up. She invariably has to be told that she must ease the weight of her shoulders on her arms and draw her body upwards in the bed. When partly up she is firmly supported, and told to get her hands on the bed behind her and while straightening her arms to draw her bottom up to her hands. She probably attains a vertical position of the body with the spine extended and rigid and the arms acting as props. She is now told to put her arms out in front of her and to lean forward. She will ultimately do so, and thus allow her whole spine to flex, her shoulders to drop, and will sit easily balanced. She immediately experiences a sense of relief and readily admits it, whether she has had a laparotomy or a vaginal or perineal operation, even though in the case of the last she has just before been saying that the site of operation is too sore to sit upon. The explanation of this is that until a position of body balance with relaxed muscles is attained the recti, and the levator muscles to counterbalance them, are in a state of tension which causes constant painful traction on the wounded tissues even when the patient is lying down. She should remain sitting for a few minutes with her knees partly flexed and

letting her thighs fall into abduction. This position is entirely harmless in either abdominal or perineal operations. She then lies down again, and often needs to be told that in doing this she should put both arms to one or other side and take the weight of her shoulders on them while sliding her buttocks backwards to the opposite side of the bed. Once complete flexion of the spine has been obtained the semiconscious *en-garde* tension of the muscles will pass off and they will remain relaxed and the patient become voluntarily mobile, subsequently sitting up for longer if not interdicted.

Subsequent Days.—From the third day the patient moves about in bed as freely as she wishes, leans out to her side locker, turns on her elbows and side or sits up for meals, and gets out

FIG. 3

FIG. 4

FIG. 3.—Third morning after salpingo-oophorectomy and the breaking-down of chronic abdomino-pelvic adhesions. The patient had been sitting up and took the cup and saucer at arm's length, but leant back as the photograph required a time exposure.

FIG. 4.—Same patient as in Fig. 3. Seventh day: dinner at the common table, with other patients.

of bed to urinate and defaecate. Incidentally, she has been doing the last all along. On the fourth or fifth day she is allowed to sit up for half an hour several times through the day, and does her own toilet sitting up in bed.

During the second week patients are in and out of bed constantly through the day, sit up for an hour or so, and walk about the ward, and towards the end of the week are up most of the day. They go to the lavatory to do their toilet and have baths from the ninth or tenth day. Small failures of skin union do not prevent this.

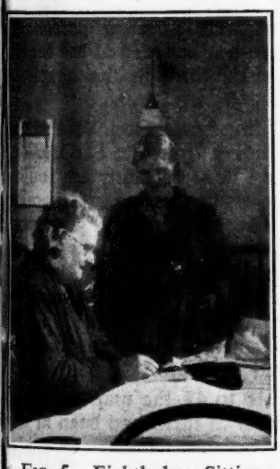

FIG. 5.—Eighth day. Sitting: case of radical cure of prolapse. Standing: case of radical cure of prolapse with vaginal hysterectomy. High colpoperineorrhapy had been done in both.

Patients do not dress fully until the day before leaving hospital—about the fourteenth day. They are carefully instructed, more particularly if they are going to stay with friends, that they are to get up at the ordinary time, wash and partially dress, have their breakfasts preferably out of bed, and attend to their bowels immediately after; then lie down and rest for an hour or so before coming downstairs. They are to remain up for meals, lie down on their beds at least once for a long rest in the afternoon, and go to bed shortly after their last meal. They are advised to move about actively and quickly for short spells, not to crawl. Those who are in the habit of riding bicycles may resume this activity after a month. The essence of management in early convalescence is to obtain active muscle exercise of the whole body all through the day but never to continue beyond the least feeling of fatigue.

Other Aspects of Nursing Care

Post-operative Sedatives.—Sedatives should not be given until the patient is completely round from the anaesthetic and premedication. Complaints of general discomfort are not an indication for sedatives but for the adoption of restful positions or the elimination of distressful ones. When the patient begins to complain of definite pain in the actual site of operation is soon enough for sedatives, and this is usually not earlier than five to eight hours after operation. They may be repeated once or even twice through the first night and for the next couple of nights, but are better omitted during the daytime. After that hypnotics are preferable at night, but should be dropped as soon as possible and the patient persuaded to try to sleep without them.

Urination.—In seven to nine hours—that is, shortly before settling for the night—the patient is asked to pass urine, and is assisted to sit up fully balanced on the bed-pan but preferably to get out of bed to the night-chair, which the majority do. If urination fails, a catheter is passed without further delay. There is always enough urine to void if spasmodic inhibition is not present, and it is much better to use the catheter than allow any degree of over-distension to develop, as this only adds an additional and potent cause of prolonged inability to pass urine. In the early morning, and then four times at regular intervals in the 24 hours, the same procedure is followed until the act is spontaneous, after which there is never any relapse. The catheter is not often needed more than three or four times, and very rarely after the bowels act. I asked the sister specifically about this in connexion with my colleagues' cases, and she replied, "Oh, yes, they nearly all get out to the night-chair the first evening; it saves so much trouble, and the catheter is such a worry when it has to be continued."

Bowel Action.—One ounce (28.4 ml.) of liquid paraffin is given on the second and third days, and the patient tries to have a bowel action on the night-chair immediately after breakfast each day. Five or ten minutes after finishing breakfast is the fixed time for the effort every day. If on the third day there has been no result, but there is evidence of intestinal activity, a small enema is given and evacuated on the night-chair; when there is no sign of intestinal movement a mild laxative, such as one or two pil. alophen, is taken on the third night, and repeated any night after the morning effort has failed. The majority respond to the paraffin with or without the enema, and only occasionally require a laxative. The essential factor is the strict observance of the "immediately after breakfast" time table.

Bed-rests.—No patient is ever returned to bed and placed on a bed-rest, as such a position for an unconscious flaccid patient, or during the first few days for one who is feeling poorly and is debilitated, results in sagging with an excessive and painful lumbar hump which increases immobility. If after the first few days a patient who is active likes to sit up for some time a bed-rest does no harm, but pillows are better as they can be avoided or pushed out of bed when she wishes to lie down.

Pulmonary Embolus

I have never had a death from, nor even symptoms suggestive of, pulmonary embolus after operation. It is difficult to believe that this is merely luck. Admittedly my operative work has been relatively small, but in the past 25 years it includes over 700 hysterectomies and should have given scope for the occurrence of a few cases. In the only three post-mortem specimens I remember seeing, the clot had formed in the pulmonary artery and extended into a branch; its proximal end had become free and been carried into the other branch, thus blocking the bifurcation and affecting a very large area of lung. On the other hand, considerable areas of lung are found infarcted at necropsies on cases that did not at any time show symptoms of embolism and where no clotting is found in the pulmonary vessels; therefore it must be accepted that the embolus travelled from veins distal to the heart. I believe the former is what occurs in practically all fatal cases, and the probability of an embolus large enough to be fatal being transmitted through the heart is negligible. I may be wrong, but it is upon this belief that I have based my treatment.

In 1923 I wrote: "There is no apparent means of anticipating the accident, nor need any measures be taken to prevent it in a normal case. In a septic case it is rather in the nature of pyaemia" (FitzGibbon, 1923b). In 1937 I added: "Embolus occurs most often in cases that exhibit marked debility and maintain a persistent immobile decubitus. There is no condition that entails this, not even severe haemorrhage after the first 24 hours. The immobility promotes coagulation of blood in the vena cava, right heart, and pulmonary arteries, and the clot is dislodged by some simple action. Treatment is essentially by prevention, and this is effected by promoting circulation and speeding up the rate of the blood-flow by active movement; but movement has often to be insisted upon" (FitzGibbon, 1937). I have nothing further to add to what I have already written, nor grounds for modifying my beliefs or the methods I have long practised.

Thrombophlebitis and Thrombosed Veins in Leg

The treatment of venous thrombosis is based on the same views as those regarding the cause of embolus. In 1923 I wrote: "Thrombophlebitis is always due to infection, and treatment is directed towards the causative condition. When the acute stage of the infection is passed massage does good, but movement should be encouraged" (FitzGibbon, 1923b); and in 1937 I said: "Earlier recovery is promoted by allowing the patient to get up and encouraging active use of the limb as soon as the primary pain has passed" (FitzGibbon, 1937). As for thrombosed veins in the limbs I said, "The condition is unimportant; there is no tendency to embolus." The treatment of thrombosis I have adopted all my life I began in 1901 for two cases of post-typhoid thrombosis with fluctuating temperatures that did not improve with rest. I got the men out of bed to sit in chairs, and after a few days they were moved out of doors. Their temperatures settled, and they were then encouraged to stand and walk about; in a few weeks they were able to follow the routine of the convalescent camp.

FIG. 6.—Two cases (in 1901) of post-typhoid thrombosis, with high temperature persisting into the fifth and sixth weeks.

I completely ignore the limb beyond placing a cage over it if the bedclothes inhibit movement, or putting a pad over a painful surface vein; and in 24 hours, when the primary pain, if there has been any, has eased, the patients are got to sit in chairs several times each day, to work the limb and walk about. I have never adopted massage, as the benefit obtained cannot compare with that from active muscular action. I can find records of only two cases delayed in hospital by thrombosis in the legs or thighs, and neither was for longer than ten days.

Conclusion

When I am asked if there are any contraindications to active movement I answer that there are absolutely none. The one essential I demand in all operations is complete haemostasis, obtained by direct ligation of the bleeding-point. If an area is moist, the bleeding-point must be found and ligated before that area is covered; or if it has been closed and oozes it must be opened up and the bleeding-point found and tied. Bleeding must not be controlled by tampon. I am not a believer in post-operative or secondary deferred shock. There often is a profound post-anaesthetic depression, especially if there is nausea, but this always passes off and does not recur, although it may cause anxiety and call for mild restorative measures; and I like to be able to say with certainty that the depression is not due to continued bleeding or renewed loss of blood consequent upon the recovery of the blood pressure as the effects of anaesthesia pass off.

Figs. 1–5 are taken from photographs of the first four patients operated upon after starting to write the paper.

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INABILITY TO WORK IN A TROPICAL CLIMATE

BY

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Wing Commander, R.A.F.O.

This paper is a report on Royal Air Force personnel who were medically boarded during the twelve months October, 1944, to September, 1945, at a station in India and found to require transfer home.

The sources from which patients came to the medical board were (1) the R.A.F. station itself, and (2) a group of Army hospitals in the vicinity in which R.A.F. as well as Army patients were treated. The R.A.F. station had an average strength of approximately 3,000 to 4,000 British airmen, although the numbers varied considerably from week to week, and occasionally reached 5,000. The Army hospitals contained approximately 6,000 beds and were equipped to deal with all types of cases. R.A.F. patients were admitted from the R.A.F. station and from other parts of South-East Asia, particularly the "forward areas"—i.e., Burma and Bengal. The total number of R.A.F. admissions was 2,626, of which 1,359 were from the local units composing the R.A.F. station and 1,267 from other units, mainly in the "forward areas."

Ground staffs were dealt with principally; air-crew personnel usually attended other centres. In the series reported only 21 of the 373 men medically boarded were air-crew personnel. Cases of pulmonary tuberculosis were not boarded at the centre in question; only 4 such cases passed through the hospitals during the period under review.

It must be remembered that invaliding home from South-East Asia did not necessarily mean invaliding from the Service. A considerable number of those found unfit for duty in South-East Asia were regarded as fit for home service. Generally speaking the standard set was that those likely to require over three months' in-patient treatment were recommended for repatriation. Of the 373 men returned to the United Kingdom only 60, of whom 18 had had injuries, were considered to require transfer by hospital ship. The remainder were deemed fit to proceed by normal trooping arrangements, even though some medical treatment might be required *en route*.

The ages of the men varied from 18 to 47, the majority being between 20 and 30 (see Table I). Most of them had been in the

TABLE I.—*Age Distribution of Cases Recommended for Transfer to United Kingdom*

Age:	18–19	20–24	25–29	30–34	35–39	40–44	45 and Over	Total
Number	2	167	68	60	48	25	3	373

R.A.F. for between 2 and 5 years, although one had only 9 months' service and one had 25 years', their length of service overseas varied from 2 months to 51 months at the time of appearing before the medical board. Table II gives the numbers in each six-monthly period of oversea service for all cases and

or the principal causes of invaliding. Apart from tropical diseases there was a tendency for men to require boarding more often during their first 12 months and after 18 months

TABLE II.—*Length of Service Overseas shown in Six-monthly Periods*

	Period Overseas (in Months)								Total
	0–6	7–12	13–18	19–24	25–30	31–36	37–42	43–48	
Whole series	66	66	37	60	54	58	27	5	373
Injuries	7	14	6	8	3	4	6	2	50
Sprue	0	3	8	6	8	8	0	1	34
Amoebiasis	1	2	2	2	5	2	1	0	15
Skin diseases	10	16	3	6	3	9	3	0	50
Anxiety state	15	14	9	13	16	12	7	0	86
Hysteria	4	10	4	8	2	3	2	0	33

overseas, and not so frequently between 12 and 18 months overseas. The numbers with more than 3 years overseas are smaller, but refer only to single men. The oversea tour for married men was 3 years and for single men 4 years.

Main Causes for Invaliding

The main causes for invaliding are shown in Table III. As is usually found in base areas enemy action accounts for a very

TABLE III.—*Principal Causes for Invaliding the 373 Men*

Injuries		50
"Organic diseases"		176
Surgical—11 cases:		
Tuberculous spine	1	
Intestinal obstruction and ventral hernia	1	
Osteomyelitis of ilium	1	
Congenital absence of kidney	1	
Renal calculus (one with hydronephrosis)	5	
Diverticulum of bladder, with calculus	1	
Haematuria (? hypernephroma)	1	
Eye—4 cases:		
Dendritic ulcer	1	
Eales's disease (recurrent vitreous haemorrhage)	1	
Cataract (old traumatic)	1	
Loss of eyeball (old injury)	1	
Ear, nose, and throat—9 cases:		
Chronic suppurative otitis media	5	
Frontal vacuum headache	1	
Otosclerosis	1	
Quinine nerve-deafness	1	
Nerve-deafness (gun-fire)	1	
Skin—50 cases:		
Epidermophytosis	12	
Multiple boils	2	
Eczema	8	
Varicose eczema	1	
Exfoliative dermatitis	2	
Seborrhoeic dermatitis	12	
Acne vulgaris	5	
Rosacea	1	
Arsenical dermatitis	1	
Psoriasis	1	
Lichen planus	2	
Tropical lichenoid dermatitis	2	
"Hypersensitive skin"	1	
Medical—26 cases:		
Acute nephritis	2	
Toxic hepatitis	2	
Cirrhosis of liver	1	
Carcinoma of pylorus	1	
Duodenal ulcer	1	
Chronic gastritis	1	
Rheumatic fever	2	
"Rheumatism"	7	
Bronchiectasis	1	
Chronic bronchitis	1	
Empyema thoracis	1	
Phlebitis	2	
Diabetes mellitus	1	
Thyrotoxicosis	2	
Anaemia (normocytic)	1	
"Tropical diseases"—59 cases:		
Sprue syndrome	34	
Amoebiasis	15	
Chronic diarrhoea	6	
Malaria	2	
Kala-azar	2	
Neurological—17 cases:		
Poliomyelitis	5	
Transverse myelitis	1	
Sciatic syndrome	4	
Bell's palsy	1	
Retrobulbar neuritis	1	
Cerebellopontine tumour	1	
Auditory neurofibroma	1	
Migraine	1	
Major epilepsy	1	
Disseminated sclerosis	1	
Psychoneurosis		121
Anxiety state	86	
Hysteria	33	
Obsessional neurosis	2	
Psychoses		15
Psychopathic personality		11

small number—5 out of the 50 cases of injury—whereas accidents with motor transport caused 15 cases, and flying accidents and games accidents were responsible for 7 cases each.

There were 8 ophthalmic cases in all, 4 being recent injuries. Two men with old injuries were returned to the United Kingdom as a result of a change of policy by the R.A.F. authorities whereby individuals with only one eye were exempted from further oversea service. Of the 9 ear, nose, and throat cases 5 had had chronic suppurative otitis media for upwards of 4 years. In all the disease had been quiescent in Great Britain and was reactivated by oversea service, and all had given at least a year's service in South-East Asia before invaliding was necessary.

Among the surgical cases the most important causes of invaliding were the injuries already referred to above. Of the surgical diseases, disorders of the urinary system, particularly calculus, are worthy of note.

Skin conditions are notoriously a source of trouble in tropical climates. Of the 50 cases in the present series only 10 admitted having skin troubles before their oversea service began. At the time of boarding the average length of service in South-East Asia was 22 months, the minimum being 2 months and the maximum 39 months. Approximately half the men (i.e., 26) required invaliding within a year of arrival in India, and these included 8 of the 12 with epidermophytoses and 7 of the 12 with seborrhoeic dermatitis. On the other hand 6 of the 8 men with eczema had served overseas for more than 12 months before repatriation became necessary.

Among the cases of tropical diseases, only 2 were due to malaria—1 with spontaneous rupture of the spleen and 1 with debility following repeated attacks. In view of the high risk of infection, particularly in the "forward areas," this small number is a tribute to the effectiveness of mepacrine suppressive therapy in preventing casualties from malaria. Although the direct cause of invaliding in only 2 cases, malaria was an additional cause in 4 other cases—viz., anxiety neurosis, amoebiasis, fractured jaw, and osteomyelitis of the ilium.

All the 34 patients with sprue syndrome had pale, bulky, offensive stools, with a fat content of over 30%—usually over 50%. They had lost weight, some considerably—viz., up to 3 st. (19.05 kg.)—but showed improvement on the Millbank sprue diet. In only 3 cases was anaemia an important feature. In 2 cases there was an accompanying anxiety neurosis, and 2 men had suffered from repeated attacks of amoebic dysentery. The length of history of diarrhoea varied from 3 to 17 months, the average being 6 months. Except for 1 case all had originated in the "forward area." At the time of boarding all were progressing well under treatment and were fit to travel by troopship, hospital ship not being necessary. Repatriation was recommended owing to the risk of recurrence if they returned to duty while overseas. In addition, there were 6 cases of chronic diarrhoea who were repeatedly in hospitals, where investigation had failed to result in a definite diagnosis. In 1 case the symptoms had followed enteric fever, and in another macrocytic anaemia was present. They were all invalided as possible pre-sprue conditions. Of the 15 cases of amoebiasis, 12 appeared to have originated in the "forward areas." Symptoms had been present for between 3 and 24 months, the average being 8 months. Repatriation was recommended not for simple amoebic dysentery, which could be treated, even though results were not always successful, but because of amoebic hepatitis in 7 cases, relapses of the bowel infection after treatment in 3 cases, the development of a pre-sprue type of condition in 4, and the extremely poor general condition in 1 case.

Under the heading "rheumatism" in Table III are included 3 cases of rheumatoid arthritis, 2 of osteoarthritis, 1 of infective arthritis (suspected but not proved gonococcal), and 1 of lumbar fibrositis. In all the 26 medical cases the men had over 18 months' service overseas, except for one of those with thyrotoxicosis, the man with duodenal ulcer, and the man with suspected gonococcal arthritis. There were 17 neurological cases, details of which are outlined in Table III.

Anxiety Neurosis

The ages of the 86 cases of anxiety neurosis ranged between 20 and 46. Their total length of service was between 19 months and 25 years, the average being 4 years 7 months, and their

length of service in South-East Asia was between 3 and 47 months—average 18 months. It will be seen that many had been able to carry on for some time, but those who required boarding within a year of arrival in India were very poor specimens indeed.

An attempt has been made to discover the precipitating factor in each case, and the results are given in Table IV. It is not

TABLE IV.—*Principal Precipitating Factors in 86 Cases of Anxiety Neurosis*

"Domestic" stresses		43
Separation from family	8	
Family worries, near relations ill, in danger from air raids, in financial difficulties, etc.	13	
Quarrel with family	3	
Wife unfaithful and pregnant by another man	8	
Wife unfaithful	8	
Patient responsible for an illegitimate pregnancy	3	
"Service" stresses		23
Discomforts of oversea service	19	
Active service (stress in action)	2	
Flying	2	
"Personal" stresses		5
Following injury in an accident	3	
Repeated organic illness	1	
Worry through being accidental cause of another's death	1	
No principal precipitating factor discovered		15

suggested that the individual's constitutional predisposition is not primarily responsible for the condition. (In 44 cases a history of neurotic traits in childhood or adolescence was admitted.) When, however, the history showed the presence of a stress connected with the onset of symptoms, this was regarded as the precipitating factor. The most important precipitating factors appear to be family worries and oversea service. The importance of harmonious relations with and reassuring news from home in its effect on the morale of the Serviceman overseas can thus be seen. In addition, tropical service can be particularly difficult, especially for other ranks, with anxiety concerning tropical diseases, the effects of heat, and the dislike of the inhabitants and their customs and habits. The symptoms complained of by those with anxiety neurosis were nervousness, headache, inability to concentrate, and feeling depressed. In 6 suicide was threatened, and a few had symptoms of insomnia, dyspepsia, and palpitation.

Other Psychological Disorders

There were 33 cases diagnosed as hysteria. The maximum length of service was 8 years 6 months and the minimum 1 year and 5 months. The length of service in South-East Asia varied between 4 and 40 months. The predisposing cause in all cases appeared to be a subconscious desire to return home. In the majority the symptoms were of a sensory type. Details are given in Table V.

TABLE V.—*Principal Symptoms in 33 Cases of Hysteria*

Headaches, depression, and dizziness	14	Somnambulism	1
Indigestion or abdominal pain	6	Fugues	2
Pains or tingling in limbs	4	Stammer	2
Skin rash	1	Hysterical gait, with stammer	1
"Blackouts"	1	Weakness of shoulder	1

The 2 men with obsessional neurosis had been nervous and worrying, though conscientious, individuals all their life. They were overcome by the responsibilities of their duties. One was an officer, the other an armourer worrying lest he let down his pilot.

The psychotics consisted of 2 cases of melancholia, 5 of simple schizophrenia, 5 of hebephrenic schizophrenia, 1 of the katatonic type, and 2 of the paranoid variety. They are chiefly remarkable for the length of service—over 2 years 9 months in all cases, and 5 years in most. They are divided into two groups on oversea service; 8 required invaliding within 12 months, while 7 carried on for over 2 years.

Among the 11 cases of psychopathic personality were 2 practising passive homosexuals. The remainder consisted of 5 men whose Service careers showed that they had been slovenly and inefficient no matter what duties, however simple, they were given to do; 2 who showed depression and lack of control of their bad tempers; and 2, diagnosed as psychopathic personality (emotional abnormality type), whose presenting symptoms were nervousness and a stammer. On the whole these cases are chiefly remarkable for the length of time that the patients continued to serve before admission to hospital and invaliding became necessary.

Summary

The causes during the year October, 1944, to September, 1945, of invaliding from South-East Asia of 373 members of the Royal Air Force are reviewed.

The principal causes were found to be psychiatric, anxiety neurosis being the most frequent.

Domestic worries were of special importance as precipitating factors in the cases of anxiety neurosis. The stress of Service life in a tropical climate was the next most important.

A large number of the "psychiatric" patients had continued to serve for quite long periods before repatriation became necessary.

Injuries were an important cause of invaliding, but enemy action accounted for very few of them.

The 5 patients with chronic suppurative otitis media had all served overseas for more than a year before being boarded.

Skin diseases were an important cause of invaliding, especially soon after arrival in South-East Asia.

Malaria was responsible for very few cases, probably due to the use of mepacrine suppressive therapy.

Chronic diarrhoea, amoebiasis, and sprue were important causes of invaliding. The majority of cases originated in the "forward areas," where the living conditions were poorer.

THE FAECES IN SPRUE

BY

D. A. K. BLACK, M.D. P. FOURMAN, M.D.

AND

P. TRINDER

During an investigation on tropical sprue carried out in Poona by the fat-balance technique we have had the opportunity of observing more than 500 four-day specimens of sprue stools. The quantitative fat-balance results have been discussed elsewhere, but routine examination of this large number of specimens has brought to our notice certain characteristics of the sprue stool which have received comparatively little attention but which have an important bearing on diagnosis. The purpose of this paper is to describe these findings, and to discuss their significance in relation to the detection of steatorrhoea.

Material and Methods

All the stool specimens came from patients who were shown by fat-balance experiment to have an impaired absorption of fat. The patients had all lost weight significantly, and many of them showed tongue signs and complained of flatulence, and of "diarrhoea" in a general sense. Their illness had in all cases appeared while they were on tropical service. They were all on a diet of known fat content—either 66 g. or 96 g. of fat per day—and stools were collected quantitatively over four-day periods in large tins. Formalin was necessary as a preservative to prevent growth of moulds; 100 ml. of 5% formalin was used for each period. The stools were weighed in bulk, and aliquots dried for estimation of total fat, fatty acids, and soaps. The water content and non-fat dry residue were calculated from weighings as described below. Indicator strips were used for the approximate determination of *p*H.

General Appearance of Sprue Stools

The stools in sprue are usually described as pale, bulky, and fatty; when patients are on a controlled diet of moderate fat content most of their stools conform well to this description. They are well formed, and the cut surface has a distinct sheen from the presence of fatty acid crystals. Such stools are easy to recognize, and at once raise the suspicion of sprue. Two important deviations from the "typical sprue stool" need special mention, as they are common, and may be misleading if undue reliance is placed on the general appearance of the stool.

(1) Many stools of high fat content, as shown by analysis, are well pigmented and not unduly bulky; in an earlier series no less than half the stools with a fat content of more than 25% of the

ry weight were found to be well coloured (Black and Fourman, 945). Pallor in the sprue stool is generally attributed to the eduction of stercobilin to stercobilinogen, which is colourless. The ltimate cause of this reduction is not known, but it seems not to e closely related to the fat content of the stools; those containing imilar amounts of fat may be very differently coloured, and even in single unmixed stool part may be pale and part pigmented. On xposure to light and air pale stools darken in colour. A contribu- ory cause of pallor in the sprue stool may be simple dilution of igment by the increased bulk of fat.

(2) Many patients with sprue give a history of one or more attacks f watery diarrhoea, which may occasion considerable loss of water nd salt (Black, 1946); in such a phase the diagnosis of "clinical ysentery" is often made. In the tropics some of these diarrhoeic pisodes may represent an actual intercurrent dysenteric infection; ut the characteristic exudate of bacillary dysentery is found only eldom. In spite of this, sulphaguanidine has a therapeutic effect in his type of diarrhoea; it is possible that sulphonamide-sensitive rganisms which are normally harmless commensals may become athogenic in an abnormal alimentary tract. Not only sulpha- guanidine, but also parenteral liver extract in adequate dosage, have been found to abort diarrhoea, suggesting that the resistance of the bowel wall to infection may be concerned in this type of diarrhoea, as well as the character of the intestinal flora.

Fats in the Sprue Stool

All the patients in the series were excreting in the stools an amount of fat corresponding to more than 10% of the dietary fat. It occasionally happened that the fat content of the dry stool was less than 25%—i.e., within the generally accepted normal limit; but the total daily fat excretion was more than 10 g. The fat content of any given stool obviously depends not only on the amount of fat in the diet but also on the "high residue" or "low residue" character of the diet, which may be quite independent of its fat content. The effect of the fat content of the diet was well illustrated by two patients with severe sprue, whose stools became normal when they were put on a diet containing less than 10 g. of fat per day.

Considerable attention has been paid in the past to the degree of "splitting" of the fat in the sprue stool; it has been found that the ratio of split to unsplit fat usually exceeds the normal ratio of 3 or 4 to 1, although occasional stools have been found to contain a larger amount of unsplit fat. The fact that the split fat in the sprue stool forms a higher proportion of the total fat than in normal stools has sometimes been taken to imply a defect in the absorption of split as opposed to unsplit fat; but this neglects the possibility of lipase action in the colon, or in the interval between passage of the stool and analysis. Bloor (1943) states that normal stools are capable of partially splitting neutral fat which is added to them; we have found that this property is shared by the sprue stool, and is in fact present in higher degree than in the normal stool, probably because of the emulsifying action of the large amount of soap in the sprue stool. The addition of sulphathiazole and penicillin did not inhibit the splitting of margarine by a number of sprue stools, so the lipolysis is probably not bacterial; saturated copper sulphate added in a proportion of 5% partly inhibited splitting. In view of the strong lipolytic activity of sprue stools *in vitro*, it does not seem justifiable to draw conclusions as to the relative absorption of split and unsplit fat from the composition of the stools. The high proportion of split fat in the sprue stool is best explained on the basis that unsaponifiable fat is the same in normals and in sprue patients, but the amount of saponifiable fat is much increased in sprue.

We have found that a high proportion of the fat in the sprue stool is present in the form of soaps, in spite of the fact that nearly all the stools were acid in reaction. Table I shows the

TABLE I.—*Relationship between Proportion of Split Fat in the Dry Stool and of Split Fat found in the Form of Soap*

Split Fat (% of dry wt.)	No. of Stools with Soap / Split Fat of:			Total No. of Stools
	<60%	60–80%	>80%	
20–40	5	11	10	26
40–60	1	14	5	20

percentage of the split fat occurring as soaps, grouped in relation to the total percentage of split fat in 46 stools from ten patients with sprue. The proportion of split fat present as soaps was over 60% in all but six stools. It can be seen from the table that a high proportion of the fat present in stools is in the soap form, irrespective of whether their total fat content is high or low; it follows that fixation of electrolytes in the form of soaps will increase as the total fat content of the stools increases. A considerable part of the soap in the sprue stool is insoluble both in water and in ether, and on analysis is found to contain calcium. The rest of the soap is water-soluble, and we found that the stools which contained most soap were also the most alkaline in reaction (Table II).

TABLE II.—*Stools Grouped according to pH and Split Fat Percentage*
(The figures represent the number of stools in each category)

Split Fat (% of dry stool)	*p*H 6·2	*p*H 6·2–	*p*H 6·6–	*p*H 7·0–	Total No. of Stools
≤30	11	11	12	6	40
>30	5	6	17	23	51
Total ..	16	17	29	29	91

*p*H is higher in the more fatty stools; χ^2 13·36, P<0·01.

The reaction of 91 stools, not treated with formalin, ranged from *p*H 5.8 to *p*H 7.4, the average being 6.7. Table II shows the *p*H values grouped in relation to the percentage of split fat in the dried stool; the *p*H is significantly higher in the more fatty stools, which contain the greatest amount of soap. These data on soap content and *p*H suggest that the well-known irritant character of very fatty stools is due not to excessive acidity but to a high content of soluble soaps. The practice of giving calcium salts to check diarrhoea has some theoretical justification in that it increases the proportion of insoluble soaps at the expense of the irritant soluble soaps.

Non-fat Dry Residue

When the total fat in a stool is subtracted from the total dry weight the amount of dry stool other than the fat (N.F.D.R.) is obtained. This is largely composed of bacteria, but it also contains unabsorbed food residues from dietary constituents other than fat. On a controlled diet the N.F.D.R. should remain constant, provided there are no changes either in the bacterial flora or in the absorption of substances other than fat. It was found, however, that after treatment by liver and yeast extract many, but not all, sprue patients showed a fall in the N.F.D.R. as their stools became less fatty. Our data do not indicate whether this fall in N.F.D.R. was caused by improved absorption of non-fatty substances or by there being fewer bacteria in the stools. From a practical point of view this fall in N.F.D.R. is important, for if percentage fat estimations are used to follow progress a real improvement in fat absorption may be masked by a concomitant fall in the N.F.D.R., the percentage fat in the dried stool remaining the same although the total fat excretion has fallen.

Water Content of Stools

With gross variations in steatorrhoea such as occur with treatment in sprue, a fair measure of the water content of the stool cannot be obtained simply from the ratio of dry to wet stool weight, for the fatty part of the stool is not wetted. The "percentage water content" used is therefore derived from (wet wt. of stool−fat) and (dry wt. of stool−fat). Table III shows the average figures for 66 stools taken at different times

TABLE III.—*Relationship between Fat and Water Content of Stools*

Fat (% of dry wt.)	Mean Water Content (% of non-fat wet wt.)	Standard Deviation of Mean
<30	76·9	±6·35
30–	79·95	±4·39
40–	81·5	±6·44

The differences between the means are significant; P<0·02.

from eleven patients with sprue and grouped according to their percentage fat content. Although the series was limited to formed stools, the stools of higher fat content have also a higher percentage of water. As pointed out above, many patients with sprue have a higher non-fat dry residue when

steatorrhoea is gross, so that the figures just given minimize rather than exaggerate the total amount of water lost in the more fatty stools.

Discussion

The diagnosis of sprue very often depends largely on the demonstration of steatorrhoea, for sprue may closely resemble other conditions as diverse as pernicious anaemia, pellagra, and the dysenteric disorders, or may even present with no other symptom than loss of weight. In the majority of severe cases of sprue the percentage of fat in the dried stool is unequivocally raised—upwards of 30% ; but diagnostic difficulty seldom arises in the typical severe case. In patients with mild or atypical sprue, however, the percentage fat content of the dried stool may be within normal limits, especially if the patient is not taking much fat in his diet; many patients with early sprue have learnt to avoid fatty foods. In order to demonstrate steatorrhoea in such patients it is necessary to put them on a diet of limited fat content (90-100 g. per day), and to collect the total stool for a period of at least 24 hours, and preferably four days, demarcated by carmine markers. The total amount of fat excreted should not exceed 10 g. per day in a normal person. In the absence of facilities for collecting and weighing stools, a percentage estimation of the fat in a mixed 24-hour stool has more value than percentage fat estimation on an isolated stool specimen, for we have repeatedly observed that individual stools from patients with steatorrhoea may be normal both in appearance and in fat content. If a percentage estimation of fat is to be used a "high residue" diet is inadmissible, for minor degrees of steatorrhoea will not be apparent if the non-fat dry residue is also high. For scientific work on fat excretion longer periods are necessary, as the variation between successive short periods is considerable: twelve days probably represents a minimum for this type of work, but is obviously impracticable in routine diagnosis, for which a four-day period is a suitable compromise between the desirable and the attainable.

Summary

Although the majority of stools from patients with tropical sprue are pale, bulky, and formed, two other types of stool are found often enough to cause difficulty in diagnosis. These types are a well-pigmented formed stool, which is found to be fatty only on actual analysis; and copious watery stools.

A high proportion of the fat in the sprue stool is in the form of soaps, both soluble and insoluble; the irritant character of very fatty stools is due to the presence of soluble soaps, and not to excessive acidity.

For the detection of minor degrees of steatorrhoea it is necessary to give a diet containing about 100 g. of fat per day, and to collect the stools over a known period; percentage fat estimation alone may be misleading, because of variation in fat content from stool to stool, and also because a high-residue diet will lead to low values for the fat percentage in the dried stool.

We are grateful to the Director of Medical Services in India for permission to publish this work, which formed part of a G.H.Q.(I.) investigation on tropical sprue.

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A new scheme for the training of nursery workers in Scotland is being devised, and details have been sent out to local authorities and education authorities in a circular issued jointly by the Department of Health and the Scottish Education Department. This says that the Secretary of State (Mr. Joseph Westwood) has considered the necessity of ensuring an adequate flow of properly trained nursery workers in nurseries, nursery schools, and children's homes of all kinds. There is likely to be an increasing need for such workers and there should be uniformity in their training. Mr. Westwood's view is that a training course for such workers would also form a useful preliminary to further training should the student, for example, wish to proceed to child welfare work or to hospital nursing. The training in Scotland has, up to now, consisted almost entirely of that sponsored by the National Society of Children's Nurseries, and great credit is due to that society for its pioneer work. The time has come, however, to institute, in place of existing arrangements, a Scottish nursery nurse's certificate to be awarded to girls in nurseries of all types who have followed a specially designed course of practical and theoretical training and have passed an examination conducted by a Nursery Nurses Examination Board. Such a Board has accordingly been set up.

Medical Memoranda

Unilateral Micromastia associated with Abnormalities of Musculature of Chest Wall on Same Side

Although this condition is referred to in most textbooks of surgery, only a few cases have been recorded in the literature. It must be distinguished from amastia, in which there is a complete absence of breast tissue, although "a rudimentary nipple is usually present."

CASE REPORT

A married woman aged 37 was admitted to the City Mental Hospital, Nottingham, as a voluntary patient in November, 1945, suffering from reactive depression. Physical examination revealed that her right breast, nipple, and areola were in an undeveloped condition (Fig. 1). A very small amount of breast tissue was palpable, and there were a few hairs arising from the periphery of the areola. The left breast, nipple, and areola were normal in appearance. The anterior fold of the right axilla ran slightly upwards in the direction of the right sterno-clavicular joint, instead of inclining downwards in the usual way (Fig. 1). This was due partly to the undeveloped condition of the right breast but chiefly to the complete absence of the sterno-costal part of the right pectoralis major. The anterior fold of the axilla thus followed the line of the lower border of the clavicular part of the muscle. The pectoralis minor was present but was very poorly developed. On the lateral aspect of the right side of the chest there was a shallow depression, with its centre approximately at the level of the fourth

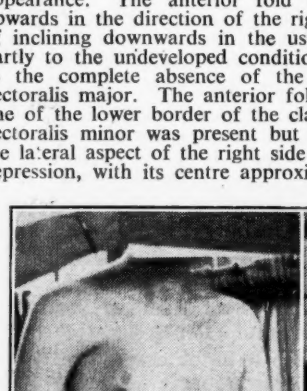

FIG. 1

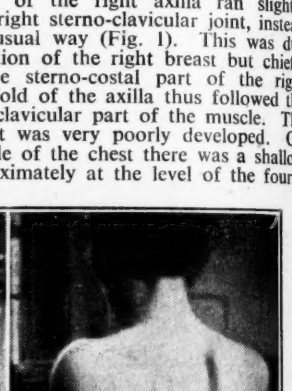

FIG. 2

rib. Over this area the chest wall was very thin, the percussion note being hyper-resonant. This was due to the apparently complete absence of the serratus anterior, as a result of which there was pronounced winging of the scapula on raising the arms horizontally in front of the body (Fig. 2). In addition, the latissimus dorsi on the right side was poorly developed. Finally, there was a prominent muscle belly extending from the region of the transverse processes of the fifth and sixth thoracic vertebrae to the medial border of the scapula (midway between the root of the spine and the inferior angle), the direction of its fibres being upwards and outwards (Fig. 2). It was apparently an anomalous lower part of the right trapezius. Its action was to pull the scapula forwards, medially, and downwards. No other abnormalities of the muscles of the chest wall were discovered. With the arms hanging loosely by the sides, the right scapula was displaced upwards and medially and rotated clockwise (i.e., when viewed from behind), this being due to the compensatory action of the intact muscles.

There were two other points of interest. First, the right breast did not lactate after either of the patient's two pregnancies, although it enlarged a little. (The left breast did lactate, but not adequately.) The second point concerned the patient's handedness. She was left-handed in using scissors, in picking up heavy objects, in ironing, and in eating with a spoon; right-handed in writing and in eating with a knife and fork; and ambidextrous as regards sewing. In this connexion it may be mentioned that her father was left-handed in all things and her younger son writes with his left hand. The muscles of her right arm were slightly smaller and slightly weaker than the corresponding ones of her left arm.

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The Belgrave Hospital for Children, Clapham Road, London, admitted 1,351 children to its wards last year, and 8,000 attended the out-patient department—a large increase in numbers. Arrangements are going forward for the amalgamation of the Belgrave Hospital and the Victoria Hospital for Children.

Reviews

ESSAYS ON HUMAN EVOLUTION

Essays on Human Evolution. By Sir Arthur Keith. (Pp. 224. 15s.) London: Watts and Co.

Is science now in a position to formulate the principles of ethics as Dr. C. H. Waddington recently maintained? Sir Arthur Keith answers this definitely in the negative. It may be recalled that in an earlier essay Sir Arthur drew attention to two strong and opposing forces in evolution, one the insistent demand for the enlargement of the unit; the other, the group consciousness of a community which restricts and isolates. The first tendency makes for internationalism, the second for nationalism. In this volume he has considerably accentuated this distinction and, indeed, to some extent has modified his own position. For him now the evolutionary process is entirely severed from any ethical considerations whatever, carrying on its development in utter ruthlessness. Any ethical principles that come into being are due to developments in the consciousness of the community group. The author points out, however, that in all human institutions we find both tendencies at work: the "cosmical" and the ethical. In general we apply the cosmical to our enemies, the ethical to our own community. Nevertheless, if the interests of the group are threatened there is an immediate reversion to the cosmical attitude. In other words, we are all "bicodal" and any attempt to be logically entirely "unicodal" ends in disaster.

Naturally he discusses this particularly in relation to war. To adopt the unicodal system in wartime is to be overthrown, and much of civilization would disappear in the process. Incidentally, he rather withdraws from his much-criticized metaphor of "the pruning-hook of war." He points out, however in an interesting way, that the invader who follows the inhuman evolutionary path suffers the fate of absorption by the defeated. Where are now the Goths? They have been completely assimilated by the races they tried to destroy. There is much food for thought and also for controversy in these pages. Thus, to regard the Athenians as evolutionary failures because they subsequently sacrificed themselves on the altar of civilization seems to us to be misleading, for throughout all the centuries fresh inspiration has been repeatedly drawn from them. Can this be accounted failure?

By this book Sir Arthur Keith, who has already done such great service in the fields of anthropology, archaeology, and evolution, has increased our debt to him. W. L-B.

NEUROPATHY AND DEFICIENCIES OF B VITAMINS

Avitaminosis y Sistema Nervioso. By F. Grande and M. Peraita. (Pp. 244. No price given.) Madrid–Barcelona: Editorial "Miguel Servet."

The Spanish Civil War produced nutritional deficiencies characterized by dermatological, mental, and neurological disorders. An extensive study of these conditions has been undertaken by Grande and Peraita and reported in their monograph. Out of 300 patients, approximately 100 suffered from serious pellagrous psychosis, and 100 showed characteristic pellagrous skin lesions. Only the remaining 100 patients, having distinct neurological disorders without cutaneous lesions, were systematically investigated. The majority of these cases were women of 40 years or above. The most frequent symptoms were paraesthesia of various kinds such as acroparaesthesia, pain dysaesthesia, fulgurating and lancinating pain, and paraesthetic sensations of wetness. Neurasthenic symptoms were present in 84%, while glossitis, alterations in gait, causalgic symptoms, and a feeling of cold were less frequent (54%). Optical retrobulbar neuritis, visual pseudoperceptions, disorders of micturition, intestinal disturbances, achromotrichia, trophic disorders of the skin, erythema pernio, hypohidrosis were less frequent.

The symptoms mentioned above are described in great detail. The extreme persistence of these sensations is stressed. The description recalls identical reports of Spillane and Scott, and Spillane from the Middle and Far East (*Lancet*, 1945, **2**, 261, 317). The majority of patients had either normal or increased ankle-jerks and knee-jerks. Pathological pyramidal reflexes and diminished responses were rarely observed. The symptoms were due to disorders in the sensory and neuro-vasomotor system of central or peripheral type. "Cold" paraesthesia was connected with a drop in skin temperature, established by careful thermo-electric measurements. The neurasthenic syndrome seemed to be connected with changes in the mesodiencephalon. The various symptoms could be grouped into distinct categories according to their intensity and localization, as has already been mentioned in a previous review of Peraita's work in our issue of Feb. 26, 1944. A careful comparison has been made between the pellagrous neuropathies and neuropathies in vitamin B_1 deficiency. The total absence of pareses, paralyses, or typical trophic disorders of the beriberi type was remarkable, and the authors conclude that the symptoms observed are different from those found in vitamin B_1 deficiency. Limited therapeutic trials with the B vitamins available did not establish quite clearly whether either nicotinic acid or vitamin B_1 was beneficial. Yeast preparations in amounts of 90–100 g. daily relieved the majority of the symptoms to a remarkable degree.

The connexion between neuropathies and B vitamins deserves the attention of nutritionists and biochemists. As Prof. Peters pointed out at a recent meeting of the Nutrition Society, the role of B vitamins in the metabolism of nervous tissue may prove a fruitful line of future research.

CAUSATION OF APPENDICITIS

The Causation of Appendicitis. By A. Rendle Short. M.D., B.S., F.R.C.S. (Pp. 79. 10s.) Bristol: John Wright and Sons. 1946.

One of the commonest questions put to the surgeon dealing with a case of appendicitis by both patients and relatives is, "What is it due to?" Many attempts have been made to provide a satisfactory scientific answer; for instance, over a quarter of a century ago Mr. Rendle Short published his observations on the subject; he has now elaborated his thesis and brought his statistics up to date in a small book. In brief he believes that there was a real and great increase in the incidence of appendicitis between 1895 and 1905 and that of all the numerous changes in the life of the community which occurred at this time, the most significant was the diminution, either relative or absolute, in the consumption of cellulose. It is the roughage value of the cellulose and not any particular chemical virtue with which he is concerned.

Whether one agrees or disagrees with the conclusions reached by the author, it must be allowed that he does not let any fanaticism warp his arguments, and he readily acknowledges that some of the statistics he produces do not support his contention or are capable of other interpretations. We were interested to find him quoting that inimitable master of scornful travesty, the late Dr. Charles Mercier, who put forward the theory that appendicitis was due to the abandonment of wig-wearing because there were no cases recorded from the days when wigs came in to the date when, except for judges, barristers, and Victorian bishops, they went out—and "who ever heard of appendicitis in a wigged bishop?" A clever skit on a type of specious deduction too frequently heard. But the fact that Mr. Rendle Short puts in this quotation shows that he appreciates, and steers clear of, such pitfalls. It would be idle to pretend that the reader will not be roused to criticism of many of the author's deductions—we found ourselves unconvinced by his conclusions—but therein lies the attraction of the book, which we can recommend unhesitatingly to all interested in the aetiology of this common disease—and who in medicine is not?

HYPNOANALYSIS

Hypnoanalysis. By Lewis R. Wolberg, M.D., lecturer in psychiatry, New York Medical College. Foreword by A. Kardiner, M.D. (Pp. 342; 21s.) London: William Heinemann Medical Books. 1946.

Since the efflorescence of the Nancy School hypnotism has gradually receded in popularity among psychotherapists. Some of the more credulous of the public who enjoy the idea of magic still hanker after it, but it has come to be regarded as less scientific and therefore less worthy than the various analytic procedures. Recently, in the efforts to discover short cuts in analysis which will allow psychotherapy to be used in a greater number of patients, several workers have been again turning

their attention to hypnosis. The present work is a careful and honest effort to assess the advantages and limitations of the use of this method in conjunction with analysis. Its chief value lies in the uncovering of buried memories, but some of these which are very deeply repressed do not emerge even in the deepest hypnosis. The integration of these memories in the conscious personality is not always easy, but the author thinks that they can be reintegrated by such methods as crystal gazing in the more conscious state. The transference state is intensified by this method and (according to the author) can be more clearly understood than in the process of waking analysis. Hypnoanalytic procedures are well described and the whole theoretic considerations of the book are illustrated and built round the detailed description of the successful treatment of a schizophrenic personality.

This is a relatively new method of therapy, though founded on old theories and practices, and it certainly merits the study of those who wish to extend their therapeutic armamentarium and find new short cuts in their analytic technique.

ANATOMY OF THE EXTREMITIES

The Extremities. By Daniel P. Quiring, Ph.D., Beatrice A. Boyle, Erna L. Boroush, M.A., and Bernardine Lufkin, A.B. (Pp. 117; 106 engravings; 14s.) London: Henry Kimpton. 1946.

This book marks a new departure in manuals of topographical applied anatomy. Its main purpose is to show diagrammatically the "motor points" of the muscles of the upper and lower limbs. The location of these points has been determined by observations on the response of muscles to electrical stimulation in a series of normal subjects. The work has been carried out by Prof. D. P. Quiring, Beatrice A. Boyle, Erna L. Boroush, and Bernardine Lufkin, in the Anatomy Division of the Cleveland Clinic, Ohio. The diagrams, based on original dissections, have legends giving the principal attachments, functions, nerve and arterial supply of each muscle. The muscles and skeletal parts are shown in outline, while the nerves and arteries supplying each muscle are shown at their point of entry into the muscle, and for a short distance inside and outside the muscle. This is of importance, because the position of the motor point usually corresponds fairly closely to the point of entry of the nerve into the muscle. Difficulties have naturally arisen in representing muscles in simple outline upon the flat surface of the paper, owing to certain muscles following a curved surface, such as the thoracic wall or shoulder—e.g., the serratus anterior and deltoid muscle. Attempts have been made to overcome these difficulties, with a certain measure of success, but it is obvious in the diagram representing the deltoid muscle that the outline of the shoulder viewed from behind has been utilized to indicate the outline of the muscle in front in place of the true anterior border, which otherwise could only have been represented in its proper position by an interrupted line.

The book as a whole clearly fulfils its purpose of indicating the position of the motor points of each muscle for use in the diagnosis and electrical treatment of muscular defects of the upper and lower limbs, and can be recommended as a reliable and handy work of reference.

Notes on Books

Diseases of the Breast, by C. F. GESCHICKTER (J. B. Lippincott Company; 72s.), covers the whole of the pathology and surgery of the breast from the point of view of the pathologist, and as such we believe it to be unique. The detailed description of the development of the breast itself and of the many pathological conditions which may arise is superb and could only be achieved by a life-time devoted to the subject. The surgical descriptions are adequate but have not quite the same character. A considerable part of the book is devoted to experimental work on the rat, and though the work is no doubt of great value its application to human disease must remain doubtful. To the surgeon who would make himself familiar with the whole complex subject of the pathology of breast tumours the volume would be invaluable.

Your Child—Your Future! by CHARLOTTE and EMIL LEITNER is published by Victor Gollancz, Ltd., at 1s. 6d. The authors have been working in the Cheltenham child guidance clinic and their little book may very well be recommended to parents ignorant of psychology and modern child guidance methods. It has the great merits of brevity, clarity, and cheapness. It is reasonably safe to say that there is nothing in it which should not have been written, and the authors deserve credit for treating their subject entirely from the preventive point of view. Thus parents may learn from this book how to treat the child while it is normal, and it will not encourage them to think they know what to do when the child becomes abnormal. Many of them will need much more detail than is given here, and there are plenty of books to give them that; but this publication is so simple and short that the parent who says that he or she has not the time, inclination, or ability to read anything in the least abstruse can hardly complain if asked to study these 58 pages of good-sized type.

Public Health in the U.S.S.R., by Prof. NIKOLAI SEMASHKO, is one of the Soviet News Booklets published from 630, Grand Buildings, Trafalgar Square, London, W.C.2., price 1s. The author was Peoples Commissar of Health from 1918 to 1930 and is a member of the Medical Council of the Health Ministry. The constitution of the U.S.S.R. gives every citizen the right to maintenance in old age and in sickness or loss of capacity for work, and the right to free medical attention. Effect is given to this by the widespread development of health resorts, holiday homes, sanatoria, factory clinics, polyclinics, hospitals, mother and child clinics, etc. Prof. Semashko says that the Soviet health service is now rapidly repairing the damage done by the war and planning its further development.

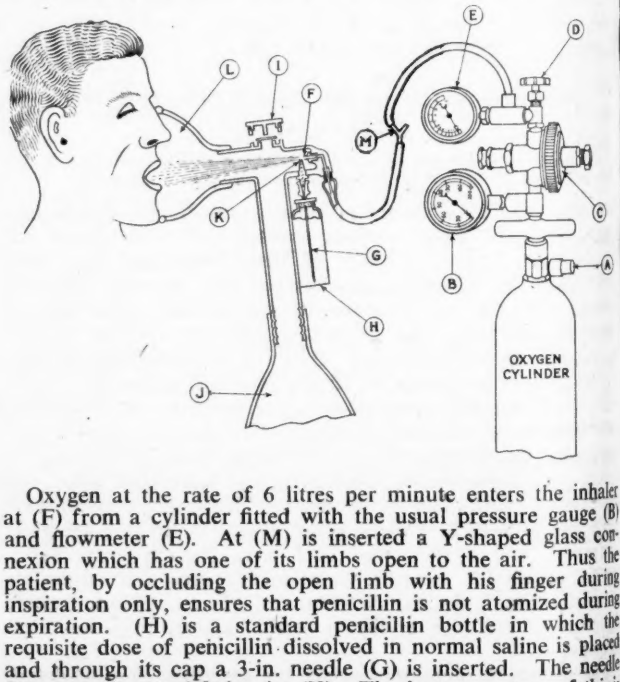
The new edition for 1946 of the *Directory of Guy's Men* is the first to appear since 1941. It is published at 5s. from the Gazette Office, Guy's Hospital, London Bridge, S.E.1. The first part contains the names, qualifications, and addresses of medical men, and the second gives particulars of those who are graduates and licentiates in dental surgery. There is also a bibliography of published writings by members of the staff of Guy's Hospital between July, 1940, and September, 1945.

Preparations and Appliances

A NEW PENICILLIN INHALER

Dr. L. CAPPER, late Resident Medical Officer, London Chest Hospital, writes:

The penicillin inhaler shown below has been in use at the London Chest Hospital for some months past. The results obtained with it have been satisfactory both clinically and bacteriologically, and it would appear that an effective concentration of penicillin can be maintained in the sputum by its use for far longer periods than has been the case with other inhalers which have been subjected to similar clinical tests. A clinical report of the cases which have been treated is to be published. The inhaler was made for us by the British Oxygen Co.



Oxygen at the rate of 6 litres per minute enters the inhaler at (F) from a cylinder fitted with the usual pressure gauge (B) and flowmeter (E). At (M) is inserted a Y-shaped glass connexion which has one of its limbs open to the air. Thus the patient, by occluding the open limb with his finger during inspiration only, ensures that penicillin is not atomized during expiration. (H) is a standard penicillin bottle in which the requisite dose of penicillin dissolved in normal saline is placed and through its cap a 3-in. needle (G) is inserted. The needle fits on to a record-fitting jet (K). The inner aperture of this is of controlled size and through it the aerosol escapes into the face-mask (L). (I) is an expiratory valve and (J) a rebreathing bag so that the patient can keep the mask on his face throughout the whole duration of the inhalation.

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TRANSFUSION JAUNDICE

The possibility that certain apparently normal individuals might be carrying a hepatitis-producing agent in their blood was first reported in England in 1937 from two separate sources. In one instance the suspected blood product was measles convalescent serum,[1] and in the other yellow fever vaccine containing normal human serum.[2] These incidents unfortunately attracted little serious attention from the majority of medical men because so many had used human blood or blood products with apparently no resulting hepatitis, and the hepatitis from yellow fever vaccine was confused with the fact that the yellow fever virus itself affects the liver. The usually long interval of 60 to 150 days between inoculation and the onset of hepatitis also served to mask the possible relation between the two events, especially if the patient had moved to another locality in the interval.

The significance of these earlier observations was revealed when two large "epidemics" of jaundice followed the inoculation into Brazilians[3] in 1940 and American troops[4] in 1942 of certain batches of yellow fever vaccine containing human serum. These were followed in 1942 by "outbreaks" of jaundice in England among individuals who had received mumps convalescent plasma from apparently healthy donors,[5] recipients of yellow fever vaccine containing pooled normal human serum from blood transfusion centres,[6] and surgical patients transfused with pooled normal human serum.[7] All these incidents had been related to pooled serum or plasma, but in 1943 Beeson[8] in the U.S.A. reported 4 possible cases of the disease in individuals who had been transfused with whole blood. Further suspicious cases of this nature were recorded in England. In spite of this convincing evidence those attacking this problem found it difficult to impress the majority of the profession with its potential seriousness. This was partly due to the failure under air-raid and battle conditions to record on the case history the identifying number of the blood or blood products used. Thus, though suspicious individual cases were identified, it was impossible to relate them to a single source, especially when (epidemic) infective hepatitis was present in the same region. However, experimental work by MacCallum and Bauer,[6] supported by observations of Bradley and his co-workers,[9] proved beyond doubt that certain batches of pooled human serum collected at blood transfusion depots may carry a hepatitis-producing agent of unknown origin. The part which healthy "carriers" play in the dissemination of this disease is not known, but the agent of homologous serum hepatitis has been found circulating in the blood 34 days after subcutaneous inoculation and 60 days before jaundice,[10] and the agent of infective hepatitis has been found 3 days before the onset of symptoms.[11] Signs of liver damage have been found in symptomless contacts in an epidemic of infective hepatitis in an institution. Thus there would be ample opportunity for either of these agents to be introduced unknowingly from an apparently healthy donor into a supposedly normal pool of serum.

The position with regard to serum is clearer than it is with regard to hepatitis after transfusion with whole blood, but the conditions accompanying the latter tend to minimize greatly the possibility of such an occurrence. In a pool of serum the icterogenic agent present in one serum may survive pooling with 499 others to provide an icterogenic pool which may be injected into 500 recipients. By contrast a single bottle of whole blood will be used for only one recipient, who may not be susceptible to attack by the agent. In an attempt to find out the effect of the use of single donors of serum Loutit and Maunsell[12] recently injected each of 99 individual sera into an average of six normal recipients. No cases of homologous serum hepatitis were detected.

Though there had been sufficient reports to prove the existence of transfusion jaundice its general incidence was unknown. In 1944 Dr. Janet Vaughan and her colleagues at the North-West London Blood Supply Depot began an investigation, described elsewhere in this issue, to determine the incidence of homologous serum jaundice among the recipients of the 400 different pools of serum and plasma and 3,468 bottles of whole blood provided by their depot. Questionaries were sent to recipients 5 months after their transfusion. There were 77 cases of jaundice among the 1,054 recipients of serum or plasma surviving and traceable 5 months after transfusion—an incidence of 7.3%. There were no deaths from acute necrosis of the liver among the 77 cases, nor were there any records of those traceable but not surviving the 5 months, having died from this disease. The icterogenicity of different batches varied considerably. The majority of icterogenic pools produced jaundice in only 1 or 2% of those transfused, but one small pool of 38 bottles gave rise to jaundice in 30% of the recipients. No cases of jaundice occurred among the 891 recipients of 2,278 bottles of blood who were surviving at the end of 5 months. There were also no cases among 876 non-transfused controls who had been in the same hospital wards at the same time as the transfused. Examination of hospital records of 1940–5 Service in-patients at an E.M.S. hospital reveals somewhat similar figures.[13] There were 140 cases of jaundice among 1,396 injured or sick patients who were transfused and under observation 3 months or more after transfusion or injury or developed

[1] MacNalty, A. S., *Ann. Rep. Chief Med. Officer Min. Hlth. for year* 1937, London, 1938, H.M.S.O. Price 3s. 6d.
[2] Findlay, G. M., and MacCallum, F. O., *Trans. roy. Soc. trop. Med. Hyg.*, 1937, **31**, 297.
[3] Fox, J. P., Manso, C., Penna, H. A., and Madureira Pará, *Amer. J. Hyg.*, 1942, **36**, 68.
[4] Office of the Surgeon-General, Circular Letter No. 95, *J. Amer. med. Ass.*, 1942, **120**, 51.
[5] Beeson, P. B., Chesney, G., and McFarlan, A. M., *Lancet*, 1944, **1**, 814.
[6] MacCallum, F. O., and Bauer, D. J., Ibid., 1944, **1**, 622.
[7] Memorandum prepared by Medical Officers of the Ministry of Health, Ibid., 1943, **1**, 83.
[8] *J. Amer. med. Ass.*, 1943, **121**, 1332.
[9] *British Medical Journal*, 1944, **2**, 268.
[10] Paul, J. R., Havens, W. P., Sabin, A. B., and Philip, C. B., *J. Amer. med. Ass.*, 1945, **128**, 911.
[11] Francis, T., Frisch, A. W., and Quilligan, J. J., *Proc. Soc. exp. Biol.*, N.Y., 1946, **61**, 276.
[12] *British Medical Journal*, 1945, **2**, 759.
[13] *Min. Hlth. Rep. (from Statistical Branch).*

jaundice within that period. There were 6 cases of jaundice among 6,250 injured patients who were not transfused.

The value of blood or blood products, properly used, in the treatment of certain surgical and medical conditions is unquestionable. During the war, at military hospitals and civilian hospitals dealing with air-raid casualties, there appears to have been a tendency to "give him a bottle of blood anyway," and in many cases it may have helped to turn the balance to recovery. In Dr. Vaughan's series 800 of the 2,040 transfused patients who were followed up died within 5 months of transfusion, and, of these, 769 died less than 2 months after transfusion. Thus 39% of the transfused cases were so ill that the possible value of the transfusion outweighed the possibility of ill effects such as jaundice. Though most reports of cases have involved only small groups and show a very low mortality rate from necrosis of the liver, there were 24 deaths in the group of 140 cases from an E.M.S. hospital.[13] The higher mortality rate may be related to the combined effect of the hepatitis and the illness or injury for which the transfusion was given to military personnel.

The data available indicate that there are probably two different agents—that of infective (epidemic) hepatitis and that of homologous serum hepatitis—either of which may cause transfusion jaundice. As already mentioned, the causative agent of either disease may be circulating in the blood stream several days before the onset of symptoms and before there is detectable evidence of liver damage; but in those donating blood early in the onset of symptoms, when one might not be suspicious, there is probably evidence of liver dysfunction. Makari[14] has suggested the routine use of the cephalin-cholesterol flocculation-test of Hanger for all donors' blood at the same time as the Wassermann reaction. Until a simple test for the presence of either agent is available the next best solution is a routine method of treatment of all pooled sera in order to inactivate any icterogenic agent present. None of the usual methods of heat or chemicals has proved effective so far, but experiments by Oliphant and his colleagues[15] suggest that irradiation with ultra-violet light may prove satisfactory. Work done in England has shown that there is probably only a narrow margin between the dose which will inactivate the icterogenic agent and leave the essential properties of the serum unchanged and that dose which will destroy the essential proteins. It is also possible that the albumin fraction may be able to withstand heating to the required inactivating temperature which would destroy the usefulness of whole serum or gamma globulin fraction. Following the satisfactory prevention of (epidemic) infective hepatitis by injections of immune gamma globulin, Grossman and his colleagues[16] used this method in cases of transfusion jaundice with variable results. In one group of military patients given one dose on admission to hospital and one dose one month later the incidence of jaundice appeared to be less than in the uninoculated controls, but the gamma globulin apparently had no effect in another group given only one prophylactic injection and in a group of experimental human volunteers who were injected with a known icterogenic agent beforehand.

[14] *Trans. roy. Soc. trop. Med. Hyg.*, 1946, **39**, 539.
[15] *Publ. Hlth. Rep., Wash.*, 1946, **61**, 598.
[16] *J. Amer. med. Ass.*, 1945, **128**, 991.

The danger of transfusion jaundice appears to lie chiefly in the use of pooled serums rather than in individual samples of whole blood. The present rate at which dried plasma is being consumed indicates that it is still being used indiscriminately and that its dangers are not appreciated. To reduce the risk of transmission of a hepatitis-producing agent, dried plasma is now being made from the smallest "workable" pools, but until improved methods of preparation can provide a guaranteed non-icterogenic product the golden rules for those giving transfusions should be: "Don't transfuse just for the sake of 'doing something.' Use whole blood where possible, but if pooled serum is necessary limit it to the least possible."

ON THE CREDIT SIDE

The authors of the medical history of the Second World War will find a rich quarry of information about the home front in the Ministry of Health's publication *On the State of the Public Health during Six Years of War*.[1] The volume resembles in form the Annual Reports which the Chief Medical Officers have made to the Ministry, and to the Local Government Board before it, and to the Privy Council and the General Board of Health before that, right back to 1856, but each of those reports was concerned with a single pedestrian year. They recorded small gains and losses, the declining incidence of one disease, the obstinate prevalence of another. On the whole they registered progress, especially since the beginning of this century, a period which has seen infant mortality decline by two-thirds and the tuberculosis death-rate halved. In the present publication, however, we have a record from the public health aspect of the fortunes and sufferings, the exertions and stresses, of the people of this country during the six hardest and grimmest years of their history. Even during the Civil War and other times of commotion and calamity the vast majority of the citizens must have slept peacefully in their beds. The national disturbance did not thrust itself into every dwelling and interrupt the ordinary commerce of social life. But during the first half of this fifth decade of the twentieth century families were disrupted as never before and human life reached an unheard-of level of devaluation. "Who dies if England live?" It may not be realized that the number of people killed in our country as a result of total war was equal to one-quarter, and the number injured to more than three-quarters, of those killed and wounded respectively in the British Armed Forces in all the theatres the world over. The civilian death-roll was 60,000, and the number of injured something like 218,000.

The strange paradox is that at a time when human life counted for so little, the men and women engaged in the conservation and improvement of public health achieved some of their greatest triumphs. Infant and child mortality is not a bad test of public health, and this reached new low levels. No disease showed a heavy epidemic prevalence with the exception of cerebrospinal fever, and even there, thanks to the use of sulphonamide derivatives, the lowest case-mortality was attained. In the ten years before the war the case-mortality of cerebrospinal fever was never below 50%; in 1930 the number of notifications was 674 and the

[1] H. M. Stationery Office. 5s.

number of deaths 635. But in 1940 and 1941, when the notifications soared into five figures, the death-rate was only 20%. Again, in spite of shortages of many kinds, the nutrition of the people was not worse at the end of the war than it had been at the beginning, and among children was somewhat better. Great advances were made in therapeutics, especially in chemotherapy, while "the discovery of the new insecticides," says Sir Wilson Jameson, meaning D.D.T. and gammexane, "may well have greater and more lasting effects on the health of the human race than any other discovery in the last six years." It was also during this destructive war, and as a consequence of it, that a new pattern of hospital service, co-operative and co-ordinated, was put into action, that a public health laboratory service was instituted which has become an integral part of the public health organization, that the civil nursing reserve was set up and enrolled 29,000 whole-time and as many part-time members, and that a blood transfusion service was established, enlisting a million donors.

The organization of hospital services and of medical personnel and supplies was on such a scale as to make it possible for this report to say that "less than 50,000 admissions [meaning admissions of air-raid casualties during the heavy night raiding period of 1940 and early 1941] spread over nine months obviously threw no great strain on the hospital accommodation, except for a few hours at a time in a small number of hospitals"; and again in the last months of the war, when a thousand long-range rocket bombs reached this country, killing 2,724 people and seriously injuring 6,691, we come once again upon the "obvious"—"obviously no strain was imposed upon the E.M.S. in dealing with hospitalized casualties which, spread over the 29 weeks of the attacks, averaged only 230 per week."

In this report the treatment is inevitably statistical, but figures can be impressive, such as the 163,500 beds waiting for casualties at the beginning of September, 1939, the 34 ambulance trains which during the war carried something like 220,000 patients, the thousand bus ambulances, of which the 220 in London alone took half-a-million stretcher and sitting cases. From D-day onwards the Emergency Medical Service received a stream of casualties from the Front in Western Europe, numbering before the year was out 80,500 by sea and 51,500 by air. The movement of casualties was only one of the forms of evacuation. The story of the transport of a million children from eighty evacuation areas to over a thousand reception areas has been often told, and the first wave of evacuation was followed by others, rising and falling with the tide of war. Then there was the despatch of 150,000 expectant mothers to emergency maternity homes, the evacuation from London of 7,600 chronic sick and 5,000 crippled and blind, and of 18,000 from the hospitals in the large towns of the provinces. Refugees to the number of 11,000 from Gibraltar, 30,000 from the Channel Islands, and others from Norway and Holland added to the problem. The transport was relatively a minor consideration, but all this movement entailed the provision of clinics, sick bays, maternity accommodation, nurseries, hostels, rest centres, canteens, and all of it meant certain health risks. Yet among the 150,000 women confined in emergency maternity homes the maternal death-rate was only 0.8 per thousand, and even among the 30,000 admitted to the homes which had been upgraded for abnormal cases it was only 1.9.

The organization of the civil defence casualty services—the 2,000 first-aid posts ready at the outbreak of war, the 6,000 aid-points, the 800 mobile units, and so on—makes a thrilling chapter if the figures are read imaginatively and allowance is made for official under-statement. One of the strangest aspects of wartime England was presented by the shelters. To our descendants the accounts of the nightly scenes in underground London may well appear fantastic and incredible. Sometimes a million people were in the shelters. On one night there were 20,000 in Piccadilly Circus tube station. The conditions in some of the shelters at first were appalling, and at no time were they better than the worst pre-war living conditions in London. Yet no serious outbreak of epidemic disease occurred among these huddled multitudes. There was not even any serious increase in lousiness, thanks to health propaganda and the presence of the shelter warden. So far as can be ascertained from sample surveys, there was no increase in neurosis. The fact is that, hazardous as they were from the health point of view, the shelters housed a population which for various reasons was tough and resistant. The people were living on a planned diet of adequate rations of protective foods. If the shelters were full, the places of amusement were empty, and from the point of view of mass infection the picture theatre may be more perilous than a tube subway. Moreover, though the shelterers had to endure great discomfort, many of them enjoyed a new social experience. Morale was high, and unexpected patience, good temper, and even heroism were plentiful.

Amid all these tasks and emergencies many figures stand out, representative of their class or vocation, as exemplifying that "all-in-the-day's-work" courage which we like to think is a British characteristic. One of them is the civilian doctor, generally middle-aged or elderly, doing two or three men's work, with no young assistant at his elbow, with his partner away on service, with some portion of his neighbour's practice to look after, continually called upon to undertake new duties, to look after patients in E.M.S. and other hospitals, to act as part-time works doctor at the local factory, to serve as medical officer to the Home Guard, to staff the recruiting boards, to examine refugees and others, to attend—sometimes to have charge of—first-aid posts and train nursing and auxiliary staff, to visit the shelters, and, no matter how "dirty" the night or tiring the day, to turn out for "incidents": all this in addition to the ordinary round of the doctor. To show how great the burden must have been it is necessary only to quote one figure. By the end of 1942 more than half the total population of England and Wales resided in areas where there were more than 3,000 people to each general practitioner: the highest ratio was about one doctor to 4,300, and later on it rose in some cases to 4,500. The tribute paid by Sir Wilson Jameson to the civilian doctor is truly well deserved. No small share of the credit for maintaining the public health and morale during the six years of war should be accorded to those of our profession who, though they did not put on Service uniform, were inspired by the same sense of duty and self-forgetfulness as those who did.

BIOLOGICAL STANDARDIZATION

It would be useful if more people could know of the work of the Health Organization of the League of Nations in the field of biological standardization. Our civilization is believed to have been brought to the verge of destruction by the discoveries of scientists, and the non-scientific world asks its leaders to give their views in important broadcast talks on how this situation can be met. Their efforts to tell us are notably free from constructive suggestions. Yet the medical scientists have made a contribution to international co-operation which stands as a model for co-operation in wider and more important fields. The scientists themselves answer the question which perplexes the non-scientific world. Few, however, know of this work; even medical men themselves show little interest or pride in it; yet it is scarcely possible to exaggerate its significance.

The latest Bulletin of the Health Organization[1] gives a summary of the steps which have been taken to ensure the use of international standards for serums, hormones, and vitamins, and of the continuous research which has been organized in different countries in relation to these standards. Described in such terms the purpose of the work and the magnitude of the project alike seem small, but this description gives no conception of the number of problems which have been the subject of co-ordinated study and of the influence this work has had in bringing workers of many nationalities into close co-operation. There is no longer any purpose in concealing the fact that the main impulse to the progress of this work has been supplied by those in the National Institute for Medical Research at Hampstead. Other countries, however eminent in medical science, have not yet taken the constructive interest in this work which its importance demands. Our greater sense that the welfare of those outside our own land affects our own welfare is shown here as well as in other fields. It is surprising to state that the work has gone on during the war without any formal interruption, though the volume of co-ordinated research in different countries has been very small. In the very middle of the war—in 1942—a provisional international standard for heparin was set up. The need for international agreement on penicillin was compelling enough for an international conference to be held in London in October, 1944, so that the earliest opportunity afforded by the decline of the war was taken for a major advance.

Among other problems of a more unusual kind which have been studied are the standardization of anti-snake-venom sera, of poliomyelitis convalescent serum, and of antityphoid serum. Much attention has been given to the hormones of the pituitary anterior lobe, and the knowledge accumulated will undoubtedly be useful when these hormones have been sufficiently separated from one another to make possible their clinical use. The work on the gonadotrophic hormone obtained from the urine of pregnant women was carried out in no fewer than 32 laboratories, which were South African, American, Brazilian, British, Canadian, Danish, French, German, Hungarian, and Dutch. This was directed to the selection of an international standard and the definition of a unit as the activity present in an agreed weight of this standard. It forms a very good example of the width of the scope of international endeavour in this field.

The organization dealing with biological standards has been so great a success that every effort should be made to continue it and perhaps to enable its terms of reference to be extended so as to increase its great usefulness further. This highly important part of the Health Organization's work will be continued under the World Health Organization, and in the meanwhile under the Interim Health Commission.

[1] *Bulletin of the Health Organization of the League of Nations.* Vol. XII, No. 1, 1945–6. London: Allen and Unwin. (5s. net.)

HERPES ZOSTER AND VARICELLA

The relationship between herpes zoster and varicella is very much more puzzling than the mere fact of their common clinical association would lead one to believe. That children in contact with cases of herpes zoster may develop varicella is now generally recognized, although the reverse transmission is rare; nevertheless cross-immunity, studied either clinically or by serological methods, does not appear to be complete.

There is perhaps something still to be learned from the purely clinical study of the respective features and the association of the two conditions, and this aspect of the subject is reviewed by S. Dahl,[1] of Viborg. Varicella has been a notifiable disease in Denmark since 1938, and it is therefore possible to state its seasonal incidence exactly: this has a maximum in mid-winter. The maximum incidence of herpes zoster on the other hand is in the warmer months of the year. According to the findings of seventeen authorities quoted it is variable, but the majority observed a high incidence in April and May; and in Dahl's own figures, derived from hospitals in Copenhagen, there was a steady rise to a peak in August. The difference in age incidence is of course well known, that of varicella falling steadily from a maximum in infancy, whereas that of herpes zoster rises to a peak in the third decade with a secondary smaller rise in the fifth. There is also a sex difference: varicella attacks both sexes equally, while herpes zoster is much more frequent in males than in females. A fourth point of distinction is the association of herpes zoster with other infective conditions: among several of these noted in the Copenhagen series syphilis was the most frequent. All these facts require to be explained in any hypothesis accounting for the association of the two conditions. In Dahl's view they are inconsistent with the idea of a common aetiology.

VASCULAR CHANGES IN RHEUMATOID ARTHRITIS

Not long after the important work by Lewis[2] on the capillary circulation in health and disease, Pemberton[3] called attention to deficient circulation in the capillaries in rheumatoid arthritis, and Simpson[4] demonstrated by oscillometry a spastic condition of the blood vessels of the fingers in cases of arthritis. Later, Bisset and Woodmansey[5] by means of photomicrographs showed a deficiency in the number of capillary loops and attenuation in their calibre, and they also found that the effect of histamine in producing dilatation of the superficial vessels was less marked in rheumatic subjects. Kovacs and others[6] noted a great reduction in the number of capillaries in the peripheral tissues in patients with rheumatoid arthritis, and a greatly increased blood supply in the articular tissues. On the other hand, Hench[7] was unable to find any consistent alteration in the size of the capillaries or the capillary flow in a large number of cases of rheumatoid arthritis and degenerative diseases.

Naide, Sayen, and Comroe, whose early death is a serious loss to rheumatology, have determined the basal

[1] *Schweiz. med. Wschr.*, 1946, **76**, 343.
[2] *The Blood Vessels of the Human Skin and Their Responses.* Lewis, T., London, 1927.
[3] *Arthritis and Rheumatoid Conditions.* Pemberton, R., Philadelphia. 1929, p. 47.
[4] *Amer. Heart J.*, 1931, **6**, 309.
[5] *Lancet*, 1932, **2**, 620.
[6] *J. Amer. med. Ass.*, 1933, **100**, 1018.
[7] Ibid., 1934, **103**, 1804.

vascular tone in a large number of normal controls, and studied fifteen patients with rheumatoid arthritis, whose ages varied from 14 to 65 years. They took the temperature of fingers and toes under cool conditions, and again during the application of moderate heat to the trunk. Digits affected by arthritis remained warm, while in cool conditions, longer than those not so affected. This difference, however, may be due simply to the inflammatory process in the joints. They also found a high basal vascular tone in patients with rheumatoid arthritis, though not abnormally high; some 30 to 40% of normal individuals showed the same tone. These authors claim that the dissociated response in affected digits enables a diagnosis of rheumatoid arthritis to be reached earlier than by other methods, but the proofs they advance are not convincing.

It is also suggested that this response may be a guide to treatment, which they propose might take the form of repeated lumbar paravertebral block, or periods of continuous caudal anaesthesia. Both methods seem somewhat drastic. Local heat would appear to be simpler and equally efficacious. More observations on a larger number of patients with a more rigid selection of controls will be required before their conclusions can be accepted, or their value proved.

CAROTID SINUS SYNCOPE

The role of a hypersensitive carotid sinus in the production of syncope and other vague cerebral symptoms is well known and has been ably recorded by S. O. Weiss and others.[1 2] Indeed, the attempt to reproduce an attack at the bedside by manual or other forms of stimulation in the region of the bifurcation of the common carotid artery is a clinical commonplace. Besides pallor and faintness, dysaesthesiae and twitching may be experienced in the contralateral limbs. Consciousness may be lost and the convulsive movements may become generalized. That this diagnostic measure may not be entirely innocuous was shown in 1941 by a patient described by J. Marmor and M. R. Sapirstein,[3] who developed a thrombosis in the anterior cerebral arteries after stimulation of the carotid sinus. In 1945 S. A. Levine[4] recorded another case of hemiplegia following this procedure. The most impressive body of evidence has been marshalled by J. M. Askey[5] in a recent paper giving notes of ten cases in which carotid stimulation was followed by hemiplegia, either transient or permanent. Of these, seven were unquestionably cases of immediate and direct ill effect; in two others the hemiplegia was a "possible" result; and in one case a unilateral paralysis did not develop until twenty-four hours after the carotid stimulation.

How does this catastrophe arise? In all cases the hemiplegia developed on the side opposite the carotid stimulated. In at least one case the mechanical pressure in question was quite light. Unilateral cerebral ischaemia from reflex vasoconstriction is therefore more probably the cause than a general systemic fall of blood pressure due to vasodepression (perhaps with bradycardia), or cardiac inhibition. G. L. Engel and his collaborators[6] support this opinion with their electroencephalographic studies of carotid sinus syncope. Many of Askey's patients had diseased arteries. Perhaps the lesson to be learned from these disasters is that mechanical stimulation of the carotid sinus should be applied with caution in arteriosclerotic or elderly subjects.

[1] *Medicine*, 1933, **12**, 297.
[2] *Arch. intern. Med.*, 1936, **58**, 407.
[3] *J. Amer. med. Ass.*, 1941, **117**, 1089.
[4] *Clinical Heart Disease*, 1945, 3rd edition, p. 317. Philadelphia, W. B. Saunders and Co.
[5] *Amer. Heart J.*, 1946, **31**, 131.
[6] *Arch. intern. Med.*, 1944, **74**, 100.

TUBERCULOSIS AND JUVENILE MALNUTRITION IN AUSTRIA

Concern expressed in British medical circles at the steadily rising figures for tuberculosis in Europe is echoed in Austria in view of the prolonged food crisis and lack of adequate facilities for treating the disease. Medical experts are of opinion that the younger generation of the country is in considerable danger. It is stated that there are at present 28,000 registered cases of tuberculosis for which treatment is needed but that there are probably many more not yet registered. The death rate from tuberculosis in Austria shows an increase of 13 per 10,000 of population during the last 16 years. The causes are malnutrition, overwork, and often the direct pressure of the Nazi regime. Many ex-soldiers also contracted the disease. It is feared that the incidence will continue to rise because sanatorium facilities and medical supplies are insufficient and many of the cases are contagious. The threat is greatest to children, and it is estimated that 300,000 children are potential patients. The most urgent need, states the Vienna Advisory Council, is for adequate treatment to be made available immediately in order to reduce the danger of infection, and also to ensure a better-balanced diet.

Juvenile health in Vienna is deteriorating at a rate that is causing anxiety to the Austrian Government. In an inquiry into the health and living conditions of schoolchildren, young apprentices, and auxiliary workers between the ages of 14 and 18, the Vienna Labour Chamber found only 28% of the girls and 11% of the boys to be really healthy and of normal weight; 34% of the girls and 64% of the boys were more than 20 lb. underweight, showing a sharp progressive decline each month since February. Housing and living conditions were found to be extremely bad, with thousands of apprentices and juvenile workers living with from two to eight other people in kitchens and small rooms.

A COLLECTION OF TUMOURS

The report of the curator of the laboratory of the Royal College of Physicians of Edinburgh (Dr. R. Cranston Low) states that the collection of tumours in the research department of the laboratory has now passed the 20,000 mark and may be described as a highly special research collection. Every tumour specimen has been filed and indexed, reported and commented on, preserved in block form, and made immediately accessible under the two main headings of type of locality, as well as lesser headings. The collection is largely intended to supply the research worker with material for reference concerning normal and abnormal structure and embryological material, with special insistence on its human, not animal, character. Much of the material in this collection comes under the head of the science of "gerontology," especially structural changes with age, the changes in organs and tissues which occur at all age periods from the cradle, or before it, to the grave. The collection has been instituted and maintained during the past seventeen years by Lieut.-Col. W. F. Harvey, who has recently resigned the superintendentship of the laboratory, though he is continuing his work as histologist. The new superintendent is Dr. Cranston Low.

Sir Maurice Cassidy will deliver the Harveian Oration before the Royal College of Physicians of London on St. Luke's Day, Friday, Oct. 18, at 3 p.m., at the College, Pall Mall East. Subject: Coronary Disease.

THE WORLD HEALTH ORGANIZATION

BY

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An international health conference for the establishment of an international health organization was convened by the Economic and Social Council of the United Nations in the City of New York from June 19 to July 22, 1946.* The Conference used as the basis of discussion proposals adopted by a technical preparatory committee of experts set up by the Economic and Social Council of the United Nations. This committee met in Paris in March, 1946.

As a result of the deliberations of the Conference the following instruments were drawn up:

(*a*) Constitution of the World Health Organization.

(*b*) Arrangement for the establishment of an Interim Commission of the World Health Organization.

(*c*) Protocol concerning the Office Internationale d'Hygiène Publique.

The texts of each of these documents in Chinese, English, French, Russian, and Spanish, all of which were equally authentic, were signed by the following 61 nations:

Albania
Argentina
Austria
Australia
Belgium
Bolivia
Brazil
Bulgaria
Byelorussian Soviet Socialist Republic
Canada
Chile
China
Columbia
Costa Rica
Cuba
Czechoslovakia
Denmark
Dominican Republic
Ecuador
Egypt
Eire
El Salvador
Ethiopia
Finland
France
Greece
Guatemala
Haiti
Honduras
India
Iran
Iraq
Italy
Lebanon
Liberia
Luxembourg
Mexico
Netherlands
New Zealand
Nicaragua
Norway
Panama
Paraguay
Peru
Philippine Commonwealth
Poland
Portugal
Saudi Arabia
Siam
Switzerland
Syria
Transjordan
Turkey
Ukrainian Soviet Socialist Republic
Union of Soviet Socialist Republics
Union of South Africa
United Kingdom
United States of America
Uruguay
Venezuela
Yugoslavia

The United Kingdom signed all three instruments without reservation as to ratification.

In view of the extensive functions agreed to in the Constitution of the World Health Organization, which cover most branches of medicine, a somewhat detailed summary of the work and machinery of the new organization cannot fail to be of interest to very many of the medical profession who are anxious to know the lines along which they, or technical organizations in which they are interested, may be able to contribute to ensure the success of this new body.

* The Governments of the following States were represented at the Conference by delegates: Argentina, Australia, Belgium, Bolivia, Brazil, Byelorussian Soviet Socialist Republic, Canada, Chile, China, Columbia, Costa Rica, Cuba, Czechoslovakia, Denmark, Dominican Republic, Ecuador, Egypt, El Salvador, Ethiopia, France, Greece, Guatemala, Haiti, Honduras, India, Iran, Iraq, Lebanon, Liberia, Luxembourg, Mexico, Netherlands, New Zealand, Nicaragua, Norway, Panama, Paraguay, Peru, Philippine Commonwealth, Poland, Saudi Arabia, Syria, Turkey, Ukrainian Soviet Socialist Republic, Union of Soviet Socialist Republics, Union of South Africa, United Kingdom, United States of America, Uruguay, Venezuela, Yugoslavia.

In addition, the Governments of the following States were represented by observers: Albania, Austria, Bulgaria, Eire, Finland, Hungary, Iceland, Italy, Portugal, Siam, Sweden, Switzerland, Transjordan.

The Allied Control Authorities in Germany, Japan, and Korea were represented by observers. The following international organizations were also represented by observers: Food and Agriculture Organization of the United Nations, International Labour Organization, League of Red Cross Societies, Office Internationale d'Hygiène publique, Pan-American Sanitary Bureau, Provisional International Civil Aviation Organization, The Rockefeller Foundation, United Nations Educational Scientific and Cultural Organization, United Nations Relief and Rehabilitation Administration, and World Federation of Trade Unions.

Principles and Functions

The work of the World Health Organization is based on the following principles:

Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.

The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, or economic or social condition.

The health of all peoples is fundamental to the attainment of peace and security and is dependent upon the fullest co-operation of individuals and States.

The achievement of any State in the promotion and protection of health is of value to all.

Unequal development in different countries in the promotion of health and control of disease, especially communicable disease, is a common danger.

Healthy development of the child is of basic importance; the ability to live harmoniously in a changing total environment is essential to such development.

The extension to all peoples of the benefits of medical, psychological, and related knowledge is essential to the fullest attainment of health.

Informed opinion and active co-operation on the part of the public are of the utmost importance in the improvement of the health of the people.

Governments have a responsibility for the health of their peoples which can be fulfilled only by the provision of adequate health and social measures.

In conformity with these principles, the functions of the World Health Organization will be:

(*a*) To act as the directing and co-ordinating authority on international health work.

(*b*) To establish and maintain effective collaboration with the United Nations, specialized agencies, governmental health administrations, professional groups, and such other organizations as may be deemed appropriate.

(*c*) To assist Governments, upon request, in strengthening health services.

(*d*) To furnish appropriate technical assistance and, in emergencies, necessary aid upon the request or acceptance of Governments.

(*e*) To provide or assist in providing, upon the request of the United Nations, health services and facilities to special groups, such as the peoples of trust territories.

(*f*) To establish and maintain such administrative and technical services as may be required, including epidemiological and statistical services.

(*g*) To stimulate and advance work to eradicate epidemic, endemic, and other diseases.

(*h*) To promote, in co-operation with other specialized agencies where necessary, the prevention of accidental injuries.

(*i*) To promote, in co-operation with other specialized agencies where necessary, the improvement of nutrition, housing, sanitation, recreation, economic and working conditions, and other aspects of environmental hygiene.

(*j*) To promote co-operation among scientific and professional groups which contribute to the advancement of health.

(*k*) To propose conventions, agreements, and regulations, and to make recommendations with respect to international health matters, and to perform such duties as may be assigned thereby to the Organization and are consistent with its objective.

(*l*) To promote maternal and child health and welfare and to foster the ability to live harmoniously in a changing total environment.

(*m*) To foster activities in the field of mental health, especially those affecting the harmony of human relations.

(*n*) To promote and conduct research in the field of health.

(*o*) To promote improved standards of teaching and training of health workers and the medical and related professions.

(*p*) To study and report on, in co-operation with other specialized agencies where necessary, administrative and social techniques affecting public health and medical care from preventive and curative points of view, including hospital services and social security.

(*q*) To provide information, counsel, and assistance in the field of health.

(*r*) To assist in developing an informed public opinion among all peoples on matters of health.

(*s*) To establish and revise as necessary international nomenclatures of diseases, of causes of death, and of public health practices.

(*t*) To standardize diagnostic procedures as necessary.

(*u*) To develop, establish, and promote international standards with respect to food, biological, pharmaceutical, and similar products.

(*v*) Generally to take all necessary action to attain the objective of the Organization.

Membership and Associate Membership

Membership in the World Health Organization is open to all States, subject to certain conditions set out in the Constitution. In addition, provision is made for associate membership under certain conditions in the case of territories not responsible for the conduct of their international relations.

Organs

The work of the World Health Organization will be carried out by:

(*a*) The World Health Assembly.

(*b*) The Executive Board.

(*c*) The Secretariat.

The World Health Assembly

The World Health Assembly will be composed of delegates representing Member States, each Member being represented by not more than three delegates, one of whom should be designated as chief delegate. These delegates should be chosen from among persons most qualified by their technical competence in the field of health, preferably representing the national health administration of the Member. The Health Assembly will meet in regular annual session and any such special sessions as may be necessary. Among the functions of the Health Assembly will be those of:

(1) determining policies of the Organization;

(2) naming the Member States entitled to designate a person to serve on the Executive Board;

(3) reviewing and approving reports and activities of the Executive Board and the Director-General, and instructing the Board in regard to matters upon which action, study, investigation, or report may be considered desirable;

(4) supervising the financial policies of the Organization, and reviewing and approving the budget;

(5) inviting any organization, international or national, governmental or non-governmental, which has responsibilities related to those of the Organization, to appoint representatives to participate in its meetings or in those of the committees and conferences convened under its authority;

(6) considering the recommendations bearing on health made by the General Assembly, the Economic and Social Council, the Security Council, and Trusteeship Council of the United Nations;

(7) promoting and conducting research in the field of health by the personnel of the Organization, by the establishment of its own institutions or by co-operating with official or non-official institutions of any Member; and

(8) taking any other appropriate action to further the objective of the Organization.

The Health Assembly will also have authority to adopt conventions or agreements with respect to any matter within the competence of the Organization.

Furthermore, the Health Assembly will have authority to adopt regulations concerning:

(*a*) sanitary and quarantine requirements and other procedures to prevent the international spread of disease;

(*b*) nomenclatures with respect to diseases, causes of death, and public health practices;

(*c*) standards with respect to diagnostic procedures for international use;

(*d*) standards with respect to the safety, purity, and potency of biological, pharmaceutical, and similar products moving in international commerce; and

(*e*) advertising and labelling of biological, pharmaceutical, and similar products moving in international commerce.

Such regulations will come into force for all Member States after due notice has been given of their adoption by the Health Assembly, except for such Members as may notify the Director-General of rejection or reservations within the period stated in the notice.

The Executive Board

The Executive Board will consist of 18 persons designated by as many Member States. The Health Assembly, taking into account an equitable geographical distribution, will nominate the Member States entitled to designate a person to serve on the Board. Each of these Member States should appoint to the Board a person technically qualified in the field of health. Among the functions of the Board will be those of:

(*a*) giving effect to the decisions and policies of the Health Assembly and acting as its executive organ;

(*b*) submitting to the Health Assembly a general programme of work covering a specific period;

(*c*) studying all questions within its competence; and

(*d*) taking emergency measures to deal with events requiring immediate action.

The Secretariat

The Secretariat will comprise the Director-General and such technical and administrative staff as the Organization may require. The Director-General will appoint the staff of the Secretariat. The paramount consideration in the employment of the staff shall be to ensure that the efficiency, integrity, and internationally representative character of the Secretariat shall be maintained at the highest level. Due regard should be paid to the importance of recruiting the staff on as wide a geographical basis as possible.

In the performance of their duties the Director-General and the staff shall not seek or receive instructions from any Government or from any authority external to the Organization. They shall refrain from any action which might reflect on their position as international officers. Each Member State of the Organization on its part undertakes to respect the exclusively international character of the Director-General and the staff and not seek to influence them.

Arrangements

Conferences.—The Health Assembly or the Executive Board may convene local, general, technical, or other special conferences to consider any matter within the competence of the Organization, and may provide for the representation at such conferences of international organizations and of national organizations, governmental or non-governmental.

Headquarters.—The location of the Headquarters of the Organization will be determined by the Health Assembly after consultation with the United Nations.

Regional Arrangements.—The Health Assembly will from time to time define the geographical areas in which it is desirable to establish a regional organization. Each regional organization will consist of a regional committee and a regional office. Regional committees will be composed of representatives of the Member States and associate Members in the regions concerned. Among the functions of the regional committees will be those of:

(*a*) formulating policies governing matters of an exclusively regional character;

(*b*) supervising the activities of the regional office;

(*c*) suggesting to the regional office the calling of technical conferences and such other additional work or investigation in health matters as would promote the objective of the Organization within the regions;

(*d*) recommending additional regional appropriations by the Governments of the respective regions, if the proportion of the central budget of the Organization allotted to that region is insufficient for the carrying out of the regional functions; and

(*e*) carrying out such functions as may be delegated to the regional committee by the Health Assembly, the Board, or the Director-General.

It is further provided that the Pan-American Sanitary Organization and all other inter-governmental regional health organizations in existence prior to the date of signature of the Constitution shall in due course be integrated with the World Health Organization.

Reports submitted by Member States.—Each Member State will report annually to the Organization on the action taken and progress achieved in improving the health of its people, and also upon the action taken with respect to recommendations made to it by the Organization and with respect to

conventions, agreements, and regulations. In addition, each Member State will communicate promptly to the Organization important laws, regulations, official reports, and statistics pertaining to health which have been published in the State concerned. Finally, each Member State will transmit statistical and epidemiological reports to the Organization, and, upon the request of the Executive Board, such additional information pertaining to health as may be practicable.

Relations with other Organizations.—The World Health Organization will be brought into relation with the United Nations as one of its specialized agencies. The Organization will also establish effective relations and co-operate closely with such other inter-governmental organizations as may be desirable, and may, on matters within its competence, make suitable arrangements for consultation and co-operation with non-governmental international organizations and with national organizations, governmental or non-governmental.

The constitution of the World Health Organization will come into force when 26 Members of the United Nations have become parties to it by signature without reservation or by signature followed by ratification.

Interim Health Commission

In view of the very large number of Governments (61) who signed the Constitution in New York on July 22, 1946, it is expected that the necessary number of ratifications will be received in a relatively short time, and that the World Health Organization will hold its first Assembly in the spring or early summer of 1947. In the meantime the World Health Conference has set up an Interim Health Commission to do the preparatory work for the first meeting of the World Health Assembly and to carry out certain specific pieces of work.

The Interim Health Commission consists of 18 persons, technically qualified in the field of health, designated by the following States:

Australia	Liberia	United Kingdom
Brazil	Mexico	United States of America
Canada	Netherlands	Union of Soviet Socialist Republics
China	Norway	Venezuela
Egypt	Peru	Yugoslavia
France	Ukrainian Soviet Socialist Republic	
India		

The functions of the Interim Health Commission are:

(*a*) To convoke the first session of the World Health Assembly as soon as practicable and to prepare the agenda for the first meeting.

(*b*) To enter into negotiations with the United Nations with a view to the preparation of an agreement to provide for effective co-operation between the two organizations in the pursuit of their common purpose.

(*c*) To take all necessary steps to effect the transfer from the United Nations to the Interim Commission of the functions, activities, and assets of the League of Nations Health Organization.

(*d*) To take all necessary steps for the transfer to the Interim Commission of the duties and functions of the Office Internationale d'Hygiène Publique.

(*e*) To take all necessary steps for assumption by the Interim Commission of the duties and functions entrusted to U.N.R.R.A. by the International Sanitary Conventions of 1944.

(*f*) To enter into the necessary arrangements with the Pan-American Sanitary Organization and other existing inter-governmental regional organizations with a view to their integration within the World Health Organization.

(*g*) To study the question of relations between the World Health Organization and non-governmental international organizations and national organizations.

(*h*) To undertake initial preparations for revising, unifying, and strengthening existing international sanitary conventions.

(*i*) To review existing machinery, and to undertake such preparatory work as may be necessary in connexion with the next decennial revision of the *International List of Causes of Death* and the establishment of international lists of causes of morbidity.

(*j*) To consider any urgent health problem which may be brought to its notice by any Government, to give technical advice in regard thereto, to bring urgent health needs to the attention of Governments and organizations which may be in a position to assist, and to take such steps as may be desirable to co-ordinate any assistance such Governments and organizations may undertake to provide.

The Secretariat of the Interim Health Commission consists of a medical executive secretary and technical and administrative staff. The Interim Commission will cease to exist when the first meeting of the Health Assembly takes place.

The Commission has already held six meetings and appointed three committees: (*a*) Administration and Finance; (*b*) Epidemiological Intelligence and Quarantine; and (*c*) Relations with Existing Organizations. The next meeting of the Interim Commission will be held in Geneva in November, 1946.

To complete the picture, reference should be made to the protocol signed by 61 Governments by which "the Governments signatory to the protocol agree that, as between themselves, the duties and functions of the Office Internationale d'Hygiène publique shall be performed by the World Health Organization or its Interim Commission and that, subject to existing international obligations, they will take the necessary steps to accomplish this purpose."

Comments

A study of the summary set out above of the Constitution of the World Health Organization and other relevant documentation will show that the new Organization differs fundamentally in both its structure and the extent of its functions from those of the League of Nations Health Organization, and promises to have a definitely larger membership and a much greater budget. Thus, for instance, it will be recollected that the Health Committee of the latter consisted only of experts appointed in a purely personal capacity who were not representative of their Governments. Consequently, the Health Committee of the League of Nations was a purely advisory body, and the fact that Governments were in no way bound by any of its decisions or recommendations resulted too frequently in little or no action being taken on any recommendations made. On the other hand, the delegates to the World Assembly will represent their Governments, and, moreover, Governments, by signing and accepting the Constitution, accept definite responsibilities and obligations. Again, the World Health Organization has authority to adopt conventions and agreements with respect to any matter within the competence of the Organization, as well as regulations in respect of certain specified matters. The regulations, once adopted by the World Health Assembly, become binding automatically on State Members, except such as may notify their objection or reservation within a period to be stated in the notice.

In conclusion, a most striking feature of the Conference was the wholehearted manner in which all the delegates participated in the work. Without exception they adopted throughout a constructive attitude and played a full part in all the activities of the Conference.

The Conference can be regarded as a real success, and the Constitution signed by the 61 nations was eminently satisfactory from the United Kingdom point of view. The British Government will spare no pains to make the work of the World Health Organization successful, and it is certain that all British organizations in the field of health, as well as individual medical men, whatever their expert knowledge happens to be, will desire to co-operate towards the same end.

EDUCATIONAL TREATMENT FOR HANDICAPPED CHILDREN

The problems of providing special educational treatment for children suffering from disability of mind or body are dealt with in a pamphlet published by the Ministry of Education.[1] Local education authorities now have new responsibilities for the provision of suitable education for these children, and the pamphlet is intended mainly for their guidance and to help teachers in the discharge of this difficult and important duty.

At any time after a child is two years old the parent may ask to have him examined to see if he requires special educational treatment. The authority is bound to have this done and if it is found that the child requires such treatment this must be provided if the parent wishes. Children at school suspected

[1] Pamphlet No. 5, Special Educational Treatment, H.M. Stationery Office, 9d.

of a disability will be medically examined, by specialists if necessary, and the local education authority will consider in the light of medical and other advice what kind of special educational treatment they should be given. In serious cases this will be provided in a special day or boarding school and in other cases arrangements will be possible in the ordinary school. For instance, partially deaf children should have hearing aids and courses of lip reading at school when recommended by the school medical officer. These children would be carefully watched and if they failed to make progress they should be sent to special schools. For delicate children there is a need for more boarding schools, but some provision can be made for them in the newer hygienic primary and secondary schools, where meals and milk are available. When rest after dinner is recommended, stretcher beds and blankets should be provided.

Subnormal and Maladjusted Children

The educationally subnormal children, including those formerly known as "educable mental defectives" and the dull or backward child, form the largest category requiring special educational treatment. The number may be as high as 10%. In the larger urban areas, day and boarding schools will be needed, and arrangements will also be necessary in the ordinary schools. In almost all schools of moderate size facilities will be required for at least a small group of children. These should not be segregated from other children or from the corporate life of the school. They will need special help in certain parts of their work. This problem must be faced by the modern school, and the staff should experiment with enterprising methods and organization for dealing with it.

In all types of area there will be a small number of educationally subnormal children who require for their own good to be taken away from their homes and educated in a boarding special school. These will include unstable children, children from unsuitable homes, those who are truants or unmanageable in a day special school, and those committed to the care of the authority by the Courts. In no case should a child who is recognized as ineducable be allowed to attend school. In the past this has sometimes been allowed on sentimental grounds. One detrimental or low-grade child can create havoc in a class, distract the children, occupy the full attention of the teacher, and bring the school into disrepute among parents and the public. It is too great a price to pay for kind-hearted acquiescence in his continued attendance. For the maladjusted child the Ministry suggests the establishment of child guidance clinics, the appointment of more education psychologists, boarding-out arrangements for certain children with carefully chosen foster-parents, boarding homes for children who may attend ordinary schools, and special boarding schools.

The pamphlet also includes suggestions for the education of physically handicapped children, for blind and partially sighted children, and for children with speech defects.

LECTURES ON CHILD DEVELOPMENT

The staff of the Provisional National Council for Mental Health, in their contacts with school medical officers, have frequently heard expressed the opinion that the enlargement of the duties of the medical officer working in a local authority makes it increasingly important for him to know something of the normal mental and emotional development of children. The provisions of the new Education Act concerning difficult young children are a case in point and the Council hopes at a later date to incorporate a section on the subject in the courses it runs for medical officers. Meanwhile it is thought that there might be a group of medical officers in and near London who would be interested in a short series of lectures on the emotional development of the normal child from infancy to adolescence and who would find information on normal child development of service to them in their work in other fields beyond that of certification. The Council has therefore planned a course of ten weekly lectures to meet the needs of such officers. It will be simple in its content, and the bearing of the material on the practical problems of medical and administrative work will be made evident. The lectures will be given at 39, Queen Anne Street, W.1, at 6 p.m. on Wednesdays beginning Oct. 9, and the fee is £2 2s. Applications should be sent to the Education Secretary, P.N.C.M.H., at that address by Oct. 6.

STREPTOMYCIN

The Government, as represented by the Ministry of Health, the Medical Research Council, and the Ministry of Supply, are co-operating with various firms in connexion with the pilot scale production of streptomycin. The firms at present concerned are Boots Pure Drug Co., Distillers Co., and Glaxo Laboratories, who are all established penicillin producers, and the Heyden Chemical Co., who propose to install a factory to produce streptomycin (and penicillin) at Ardrossan in Scotland.

For many months streptomycin will be available only for clinical trial under the auspices of the Medical Research Council, and it is hoped that these trials will begin before the end of this year. Trials must necessarily be prolonged since the conditions for which it is hoped streptomycin treatment will prove advantageous require treatment over a period of some months. In any event release to the general medical profession could not occur until substantial production is in operation, by which time the trials should have provided the information on which advice to the medical profession as to the mode of use of streptomycin can be based.

A SELECTION BUREAU FOR INDIA

An office known as the Employment Selection Bureau has been established by the Government of India at New Delhi with the purpose of stimulating, planning, and giving technical direction to various projects of psychological-psychiatric significance in which the Government is interested.

Since December, 1945, the Bureau has been concerned chiefly with the assessment and preliminary selection of Indian candidates for administrative appointments in the Central and Provincial Government services, and has set up for this work three civil selection boards similar in character to those employed since 1942 in a number of the Allied Armed Forces. Candidates appear before these boards for a period of three days, during which the technical staff composed of a psychiatrist, a psychological officer with assistants, and group testing officers undertake by means of tests, interviews, and observation in a variety of social situations an appraisal of each candidate's qualities relative to his prospective Government employment.

While at the moment the Bureau's principal commitment is to the civil selection boards' programme, it is expected that in the future, with increase in trained staff, an extension of its work can be made into other personnel activities in the Government services, the selection and guidance of secondary school pupils, industrial relations problems, and perhaps additional but at present less definitely indicated fields of child delinquency, mental hygiene, the study of cultural conditions as a basis for social and economic development, and the like. It is generally construed as a function of the Bureau to assist in the stimulation and development of sound practice in these fields in such a way as to make this growth an integral part of India's own post-war pattern of progress. As a consequence, close relations with the Indian universities and other institutions in the procurement and training of staff and in the actual field work undertaken are considered to be of the highest importance.

The Director of the Employment Selection Bureau is Brigadier H. Vinden, until recently Director of Selection of Personnel, Indian Army, and its secretary is Mr. C. K. Phillips. Dr. D. J. Watterson, who was formerly consultant psychiatrist for 21 Army Group, is the Bureau's adviser in psychiatry, and Dr. N. W. Morton, on temporary leave of absence from McGill University and from 1941 a member of the personnel selection staff of the Canadian Army, is its adviser in psychology.

A report on the work of the St. Thomas's Hospital Samaritan Fund and Lady Almoner's Department has recently been issued. The nucleus of the fund was established in 1852 by the Hospital Governors investing £2,000 "to comfort the forlorn, to assist the struggling, to raise up the fallen . . ." Needless to say, though social legislation has altered the form of charity, money is still urgently needed to maintain the Fund. The Almoner's Department, which administers the Fund, was founded in 1905, Miss Cummins being appointed Principal. It was largely due to her energy and imagination that welfare of the sick attained its present importance. A well-deserved tribute is paid to the courage, tact, and efficiency displayed by members of the Department during the air-raids on London.

PUBLIC HEALTH IN THE WAR YEARS

MINISTRY OF HEALTH RETROSPECT

The twenty-first report of the Chief Medical Officer of the Ministry of Health[1] takes the form not of an annual statement covering a single year of peace, but of a narrative of the state of the public health and the medical work of the Ministry "during the trials, the mercies, the efforts, and the final triumphs of six years of the grimmest struggle Britain has endured since the Conquest." The facts and figures, as Sir Wilson Jameson says, need no interpreter—they speak for themselves. He pays many tributes—to the Medical Research Council, the Medical Directors of the Services, the Ministries of Education, Labour and National Service, Food, and Supply, the London County Council, the Central Medical War Committee, the general practitioners who remained in civil life, public health medical officers, his colleagues in his own department, and his predecessor, Sir Arthur MacNalty, whose wise policy during the period of pre-war preparation and the first fourteen months of the war, during which he held office, greatly facilitated his own task.

During the war years the birth-rate for England and Wales rose steadily, reaching 17.7 in 1944 (the last complete year to which this report relates), its highest point since 1926. The death-rate has remained steady, and in 1944 was 12.7. The principal certified causes of death were in the same order each year—diseases of the heart a long way first, followed by cancer, intracranial lesions of vascular origin, bronchitis, tuberculosis, and diseases of the digestive system. Infant mortality, though it went as high as 60 per 1,000 births in 1941, came down to 45 in 1944. There were marked reductions in the large towns—in Liverpool, for example, infant mortality fell from 74 in 1938 to 58 in 1944. Not only in infancy but at every year of age from one to fourteen the mean annual death-rates for 1940–44 were below the rates for any pre-war year, and this in spite of the deaths of some 7,000 children due to enemy action and an increase in accidental deaths brought about by war conditions.

Absence of Serious Epidemics

The war period was marked by the absence of serious epidemics, except for the unprecedented epidemicity of cerebrospinal fever, the notifications of which in 1940 and 1941 were some ten times those of 1938; but the disease was attended by the lowest fatality rate on record, thanks to the use of sulphonamide derivatives in treatment. Two short epidemics of mild influenza occurred during the six war winters. Typhoid fever was less prevalent during every war year (except 1941) than in the pre-war year 1938, but in the earlier part of the war there were three considerable outbreaks of paratyphoid fever of a mild type. Notifications of dysentery showed a large increase in 1944. The commonest type of dysentery by far is that due to the Sonne bacillus. The increased prevalence is the more disquieting because it had been hoped that the provisions of the Food and Drugs Act, 1938, would have notably lessened the incidence of intestinal infections. The number of outbreaks of food poisoning during the war years was 1,319, with 2,544 cases and 35 deaths. It is mentioned that the importation of dried egg from America appears to have been responsible for the introduction of an entirely new series of Salmonella types. In 1943 seven outbreaks, involving 95 persons, were traced to this source, and it is considered likely that earlier outbreaks in which alien types of Salmonella were found had the same origin.

The incidence of scarlet fever seems to have been unaffected by war conditions, but case mortality reached an unprecedented low level. Measles was severely epidemic in 1940 and 1941, but the deaths even in the epidemic years were only 75% of the average number for the quinquennium 1935–9. Low records for diphtheria have been established, though the comment is made that far more children were killed by this preventable disease during the war than were destroyed by enemy action. Compared with 1938 both notifications and deaths were down by considerably more than half. The figures for the war years were as follows:

	Cases	Deaths
1940 ..	46,821 ..	2,480
1941 ..	50,791 ..	2,641
1942 ..	41,404 ..	1,827
1943 ..	34,662 ..	1,371
1944 ..	29,949 ..	934

Thus, despite the adverse circumstances of war, something occurred to interfere with the incidence of deaths from diphtheria. What could it be but artificial immunization with the offer of free prophylaxis? The scheme started late in 1940, but did not get properly under way until 1942, and by the end of 1944 children to the number of 5,366,000 had been immunized under local authorities' schemes.

Tuberculosis and Venereal Diseases

The wartime increase in tuberculosis followed the pattern of the earlier years of the last war, but whereas in 1914–18 the tuberculosis death-rate continued to rise until the war ended, in the recent war, from 1942 onwards, there was a smart return to pre-war level. Another difference is that in the first world war the greatest proportionate increase occurred in young women; in the second world war it was the older male age groups which suffered most. Although the primary notification figures went up from 35,965 in 1939 to 44,664 in 1944, it is pointed out that these figures are a guide rather to ascertainment than to actual incidence. The use of mass radiography alone makes it likely that there will be increased notifications of pulmonary tuberculosis during the next few years. The encouraging thing is the favourable trend of the mortality.

The standardized death-rate for forms of tuberculosis other than respiratory was 129 per million living in 1944—an improvement on the earlier war years, but higher than before the war. Sir Wilson Jameson adds:

> "Until pasteurization of milk becomes universal throughout the country the most readily preventable forms of tuberculosis, namely, those caused by infection with the bovine strain of tubercle bacillus, will continue to cause suffering and death among large numbers of children."

Social conditions during the war favoured the spread of venereal diseases to a far greater extent than in 1914–18. Families were disrupted as never before, and the country became the training ground for the Forces of other nations as well as our own, so that sexual promiscuity must have been practised on a scale never previously obtaining. In 1939 the incidence of early syphilis, as judged by the cases dealt with at the treatment centres, had reached the lowest point on record, but by the end of 1943 there was an increase in early syphilis (counting the cases dealt with in treatment centres and infections of British Service men said to have been contracted in this country) of about 140% above 1939 figures, followed by a slight decline in 1944. The incidence trends of gonorrhoea are more difficult to calculate owing to the greater tendency of persons with this disease to seek private treatment, but generally it appears that the increase was not so great, that it reached a peak in 1942, when it was about 86% higher than in 1939, and that in 1944 the percentage declined to about 35. Fortunately there have been potent medicaments available—the sulphonamides for gonorrhoea and now penicillin for both gonorrhoea and syphilis.

Cancer again shows a progressive increase. The postponement of submission of schemes under the Cancer Act has been in one sense fortunate, for a large experience has been accumulated from the approved interim arrangements and a clearer conception obtained of an adequate cancer service, which can only be forthcoming where several local authorities pool their resources and secure the co-operation of the large voluntary hospitals.

Emergency Laboratory Service

A section of the report is devoted to the Emergency Public Health Laboratory Service which was set up by the Medical Research Council on behalf of the Ministry. The service now consists of 17 constituent public health laboratories, 2[illegible] associated laboratories, and a further 7 in the London sector.

[1] *On the State of the Public Health During Six Years of War.* Report of the Chief Medical Officer of the Ministry of Health, 1939–45. (H. M. Stationery Office; 5s. or 5s. 4d. post free).

It has "developed into a valuable instrument in the armamentarium of preventive medicine." It has provided greatly improved diagnostic facilities, has organized field investigations, and has afforded much needed help to overworked medical officers of health. In fact it has become an integral part of the public health service of the country. An important phase of its work has been the establishment of reference laboratories, mostly for Vi-agglutination tests and Vi-bacteriophage typing of typhoid bacilli, the serological identification of members of the Salmonella group, the serological typing of haemolytic streptococci, and special chemical investigations in relation to water, milk, food, and sewage.

A hospital pathological service was set up by the E.M.S. and has resulted in the extension of diagnostic facilities in the wider field of pathology to hospitals throughout the country. There are now 29 area laboratories as well as a number of subsidiaries.

"The place of the laboratory in the medical services of the future is assured, and it is most desirable that there should be close co-ordination of its three main branches—teaching and research, clinical pathology, and public health bacteriology and epidemiology. Only thus will the laboratory be able to play its full part in the further development of curative and preventive medicine."

As an example of prevention may be mentioned the watch kept on the danger of importation of typhus. So far there have been no cases other than a small number among laboratory workers who contracted the infection in this country. Cases of malaria infected here have also been extremely few—only seven in 1945 and a smaller number in the earlier years—but there is now a greater risk of indigenous cases occurring.

One of the best organized of all wartime services was the civilian blood transfusion service. Donors on the panels of this service at the end of 1944 numbered over a million. Three main lessons have been learned:

(1) Until a safe and equally effective substitute can be discovered, blood transfusion has come to stay, and the practice of it will increase;

(2) The demand can be met, provided the appropriate organization is available.

(3) Blood and blood products are highly dangerous materials. The dangers can for the most part be avoided, but only by constant supervision by highly skilled personnel.

The advances in this field stimulated by the war will have profound repercussions in civilian practice.

Maternity Care

The maternal death-rate fell almost consistently during the war. It was 3.10 in 1939, and fell gradually to 1.92 by 1944—a rate still too high for complacency, says this report. The decline in the sepsis rate has been even more remarkable. In 1941 deaths from infection during childbirth and the puerperium reached the low level of 0.48 per thousand births, and the decline continued until in 1944 it was 0.28. In 881 maternal deaths in 1944 on which confidential reports were received by the Ministry, sepsis was given as the cause of death in 112, a distinct decline, but deaths from toxaemia numbered 197, an increase on the figures for the preceding years. The other causes to which deaths were assigned were:

Haemorrhage	120	Ectopic gestation ..	13
Embolism	43	Abortion	137
Obstetric shock	122	Associated conditions ..	137

The comment is made that with the improved facilities for blood transfusion it is disappointing that the percentage of deaths from haemorrhage and simple abortions remains stationary.

During the war 152,000 mothers were confined in emergency maternity homes in reception areas. In these the maternal death-rate was 0.8 per thousand and the neonatal death-rate 9.6. These figures relate only to normal cases, but among 30,000 confinements in homes upgraded to admit abnormal cases the maternal death-rate was only 1.9 and the neonatal mortality 13.9.

The Emergency Hospital Scheme

Much of what appears in the report about the emergency hospital scheme and the civil defence casualty service was already common knowledge, but it is useful to have it brought together within a few pages. The story of the organization of beds and medical supplies, the disposal of civilian and Service sick, the arrangements for treating those injured in air raids and the casualties received from the Second Front after D-day is related, and the conclusions to be drawn from this experience are set out. Whatever form the hospital services of the future may take it is believed that the emergency scheme points to the need for the co-operation of hospitals of all types to provide a co-ordinated service for both in-patients and out-patients for an area or region, the provision of specialist centres or units staffed by expert medical practitioners, nurses, orderlies, and others working as teams, and the constant visiting of hospitals by consultants in the different branches of medicine and surgery in order to facilitate interchange of ideas, to stimulate research, and to disseminate knowledge of new methods.

"In peacetime the sudden stresses thrown on certain hospitals are unlikely to occur to anything like the same extent as in war, but even in peacetime occasions may arise when close liaison and pooling of resources would be of great advantage; for instance, in severe local or even widespread epidemics, explosions in factories, fires, mine disasters, or railway accidents."

The emergency scheme grafted on to the existing organization a system of payment for medical staffs for services rendered to the State: first, by creating a cadre of whole-time salaried medical officers of various grades; secondly, by appointing a number of part-time salaried practitioners of consultant rank; and, thirdly, by using the services of other practitioners, both general and specialist, who received fees for rendering such service. It is added that an advantage specially appreciated by the profession was the organization created by the second and third of these classes, under which doctors were able to serve the State to the fullest extent when required, and at the same time carry on their private practices.

The work of the civil defence casualty service is briefly recounted, and the experience gained is held to point to certain conclusions as to the need for rapid and easy transport of accident cases to a hospital competent to provide resuscitation and efficient plenary treatment, for the simplest kind of first-aid treatment on the spot, for an efficient ambulance service operating over wider districts than those of a local authority, for the maintenance in peacetime for use in accident cases of the efficient hospital departments set up to deal with war injuries, and also for the continuance of the revision of instruction in first aid which was found necessary during the war. The experience of the shelters is also the subject of some interesting observations. A section of the shelter population, comprising 4,000 persons, was closely studied from the epidemiological point of view. Nothing which could be described as an epidemic occurred in any of the thirteen shelters concerned, and apart from minor respiratory troubles no outbreak seemed to be related to shelters. The bacteriologists detected many types of pathogenic organisms and watched for the appearance of multiple cases due to any one type, for they were anxious to try out sprays, masks, and other methods designed to control the spread of infection, but no opportunities occurred.

One chapter, too detailed for summary, is given up to a description of a system of random sampling of patients admitted to E.M.S. hospitals with a view to ascertaining the reasons for admission and the average periods of disablement caused by certain illnesses. Thus for appendicitis the median period was 56 days, scarcely affected by the age of the patient; for lobar pneumonia it was 60 days at ages 15–34 and 54 days at ages 35–54; for infective hepatitis 34 and 45 days respectively. The results are set out in a series of tables which are well worth studying.

Finally, the problems of medical manpower as they presented themselves with a varying degree of urgency during the war are set out, including the recruitment of public health medical officers and of general practitioners. A glimpse is given of the working of the civilian medical recruiting boards. These boards altogether carried out over seven million examinations. The time occupied in each examination was on the average just under half an hour, so that the total time spent by the chairmen and members of the boards was 3½ million hours, or something like 400 years. Sir Wilson Jameson pays a tribute to the devotion and endurance of those senior practi-

tioners who, without proper rest or holiday, carried on with a multitude of tasks, often to breaking point.

The dental and nursing services, the organization of international medical intelligence, and the "push" in health publicity are the subject of separate chapters; and in the last chapter, "Planning for the Future," the various proposals for a National Health Service, from those of the British Medical Association, originally put forward in 1930, are recounted, but the introduction of the Bill now before Parliament is mentioned only in a footnote.

Reports of Societies

PLACING THE TUBERCULOUS IN INDUSTRY

DISCUSSION BY TUBERCULOSIS ASSOCIATION

Dr. NORMAN TATTERSALL presided at the Provincial Meeting at Oxford in July. The discussion on the "Tuberculous in Industry" was opened by Dr. F. R. G. HEAF (London). He said that the employer had to measure efficiency in terms of costings and production and at the same time be responsible for the welfare of his staff, infectivity and reduced working capacity making him look upon the employment of the tuberculous with considerable doubt, though feeling a natural desire to help such persons to get suitable work. The age when primary infection occurred was rising, and since 1938 there had been an increase in the proportion of notifications of tuberculosis in higher age groups. The incidence of phthisis was higher in dusty occupations, and even the so-called harmless dusts might indirectly be the cause of spreading tuberculosis by maintaining chronic catarrh in an individual with an undiscovered active lesion. Light work under bad conditions could be more harmful than heavy work under good conditions. Mortality was generally higher in the dusty trades, the peak occurring in the 50–55 age-group, and in the 40–45 age-group in the non-dusty and heavy occupations. As regards disposal, at present it was by trial and error that they determined capacity for work. The allocation to modified work of a person with a stationary minimal lesion, change of occupation, or the continuance of his present job were largely matters of guesswork. An infectious person, diagnosed by mass radiography, might refuse advice, and the authorities could not inform the employers.

The Industrial Medical Officer

The position of the industrial medical officer was anomalous. He might be informed of the number of employees with abnormalities but must not be given the names of persons with tuberculous lesions. A closer link was required between the dispensary, the local labour office, and the welfare unit of each firm. The Ministry of Labour circular letter 52/46 stated that the T.O. must inform the labour office of every tuberculous person under his care who was fit for a measure of employment and required help to find it, and also any case in which the patient might not be fit for work but nevertheless desired advice. The T.O. must also, at the request of the D.R.O., give medical reports on form D.P.1 (X) and advise about work suitable for a particular case.

Mass radiography was best applied to serial examination of those sections of the community in which the risk of contracting tuberculosis was highest. If the Minister were to schedule tuberculosis as an industrial disease, our incomplete knowledge of the pathogenesis would emphasize the need for a national research body. The best plan would be to enhance privileges under Ministry of Health circular 266/T and eliminate the need for proving that the disease was due to the nature of the employment. The relation between management and labour must not be disturbed by special privileges and conditions for a few selected employees. The tuberculous person might be given light work, but he must fulfil his duties. It was best that the patient who had completed treatment but was still sputum-positive should not be re-employed in normal industry; special workshops and close medical supervision were needed.

We were still searching for an easy means of determining the limit of safety of energy output for tuberculous persons; the work of Leitch and Orr on the calories expended per hour in carrying out certain tasks was of value.

Dr. DONALD STEWART (Birmingham) mentioned that there were over 2,000 doctors employed in industry in this country, but that two-thirds of the workers had no industrial medical officer. The situation of the tuberculous could be improved by the collaboration of industrial health and tuberculosis workers, and by the implementation of newer legislation. Mass radiography was valuable, but the difficulty of defining "incapacity" still remained—e.g., dust reticulation. There was need for liaison between tuberculosis officers and local industries, and doctors must know more about their patients' occupations. The T.O. should have access to a placement bureau through the D.R.O.

Occupations for the Tuberculous

There must be special shops for short-period and long-period cases, and they must be centres for retraining, guidance, and the earning of a livelihood. The man who managed the shop was the key to the situation. Pay must be at a weekly rate and not for piece-work. The medical officer who supervised the workers must have that knowledge of machines that would enable him to order "progression through work," and admission and discharge must be his responsibility. Research was needed into the types of occupations suitable for the tuberculous, into the response of such patients to work, their degrees of reserve, and into the economic value of the work which they would do.

Mr. P. GOLDBERG (Ministry of Labour) said that the work of the doctor must be completed by rehabilitation, and that the Disabled Persons (Employment) Act provided for the registration of the disabled, their training and re-employment (many through a quota scheme), and for sheltered employment for the severely disabled. Sheltered workshops were still in the experimental stage, and there were only three at present. There would be perhaps 24,000 employable tuberculous patients out of the registered list, of which about 4,000 would be candidates for sheltered workshops. The quota was inadequate. He envisaged 50 sheltered factories for disabled persons by spring 1947. Where workshops had been opened, applications for registration had come in more quickly. Tuberculous workers were admitted into sheltered factories—some were devoted to them entirely. Hostels and night sanatoria might be provided later. There would be no "driving" of workers: all would be paid an hourly rate based on the best standards regardless of output. Hours would be fixed for each worker on medical advice. There would be a variety of trades and suitable machinery.

In the general discussion, Dr. NORMAN ENGLAND (Oxford) pleaded for proper choice of jobs for the tuberculous, who feared that they might be discriminated against in filling the quota. Dr. J. CRAWFORD (British Legion) hoped that sanatoria might in certain cases get grants to assist their rehabilitation work. There was no place for the tuberculous in heavy industry. Dr. GLYN HUGHES (Wales) emphasized retraining the younger patients (starting in sanatoria with supplementary educational courses) and encouraging them to enter clerical employment.

Dr. W. H. TATTERSALL (Reading) mentioned the difficulty of getting consumptives to register, and of getting the D.R.O. to go to institutions and register them there. He thought that the quota might be invidious. Was it possible under Section 12 of the Act to reserve certain occupations for patients suffering from specific diseases? Dr. A. CAPES (Hants.) demanded a scheme of job-analysis. There should be craft-work and not complete mechanization in workshops. Dr. H. RAMSAY (Walthamstow) said that the T.O. had little time to learn about industrial processes. Dr. R. L. MIDGELEY (Devon) feared that D.R.O.s thought that rehabilitation began only after discharge from the sanatorium. Dr. A. L. JACOBS (London) felt that it was unlikely that all tuberculous patients were registering, and Dr. MOORE (Northumberland) said that many did not wish to register. Dr. J. V. HURFORD (London) asked how part-time workers would get a really adequate wage, even when supplemented by treatment allowances (266/T) or N.H.I. benefits.

Danger of Discontinuous Treatment

Dr. F. R. G. HEAF feared that the patient might be split between two authorities, the Ministry of Health for treatment and the Ministry of Labour for employment. Rehabilitation must be merely continued treatment and the case sheet start in the sanatorium. There was a risk of the disabled worker sheltering behind the shadow of his chest. Dr. STEWART said that with good management the less healthy person might be carried along in the team. He advocated a chain of workshops for the tuberculous, and courses in industrial medicine in the universities.

Mr. GOLDBERG said that no Ministry could be responsible for the diversional therapy in sanatoria. A sheltered workshop run in conjunction with a sanatorium would be grant-aided. There was no intention to abolish craft-work. If the patient worked for a full week in the special shop, even if he gave only 20% of a normal output, he earned a full weekly wage, but for 20 hours in the shop he would get hour-rates. Supplementation must come from elsewhere.

Mr. GOMME (Ministry of Labour) said that in engaging workers for employment, whether under the quota or otherwise, the last word rested with employers. Registration at sanatoria was inadvisable, especially as many in-patients would be away from their home areas. However, the D.R.O. might advise patients. An employment could not be "designated" for a specific disease. Job-analysis research was being sponsored by the British Council of Rehabilitation. Local authorities were subject to quota obligation. Registration must be voluntary.

ASSOCIATION OF CLINICAL PATHOLOGISTS

The summer meeting of the Association of Clinical Pathologists was held at Oxford on July 26 and 27, and lectures and demonstrations were given to a large audience. Dr. WINSTONE EVANS opened the proceedings with a paper on "Observations on Sickle Cell Anaemia" based on his West African experiences. Sternal marrow from twenty cases showed that no specific changes were present in the early cells and only occasionally in reticulocytes and normoblasts—i.e., sickle-ing only took place with ease after the loss of the nucleus. Sealed moist preparations showed a typical expansion, tenseness, and filamentous extensions six to eight hours before sickle-ing, and then an explosive onset. Of six hundred males subjected to routine testing there was an over-all incidence in fit soldiers of 19.9%, with the highest in the Gambians of 30%. Almost anything could occur in the clinical picture of sickle cell anaemia, including leg ulceration, and the sickle-ing was really not the primary lesion but merely a side-show superadded on other diseases. Several pathologists who had served in Africa agreed that the oxidation-reduction was the important factor producing sickle-ing in ten to fifteen minutes, whereas alteration in *p*H alone showed no changes.

Dr. E. JACOBSEN from Copenhagen showed that if reticulocytes were kept in saline at 40° C. there was no drop in their number in six hours, whereas when liver was added ripening of the reticulocytes took place very quickly. He divided the liver principle into two parts: a thermolabile fraction absorbed by florodin, and a thermostable part not absorbed. The thermolabile portion was a xanthine of which folic acid was probably a part. Stomach tissue also contained a good deal of the thermolabile fraction. Organs of different animals had different amounts of ripening substance; those with low normal reticulocytes having the highest ripening value and those with normally high reticulocytes having low value. Increased reticulocytosis might therefore not necessarily mean an increased output from the bone marrow but might mean a decrease in the ripening factor. Dr. B. MALAMOS from Greece then surveyed Cooley's anaemia as it occurred in Greece.

Dr. S. WRAY read a paper on "Acid Phosphatase" based on 25 cases of prostatic carcinoma. After describing the technique for estimation of acid phosphatase and its increase in prostatic carcinoma, he showed tables suggesting that maintenance doses of oestrogens would probably be necessary for the rest of the patient's life, and showed histological sections of degeneration in secondary deposits.

Errors in Haemoglobinometry

A discussion then started on the reliability of clinical haemoglobinometry, and Dr. MACFARLANE showed how in a series of investigations on the significant error in haemoglobin estimations a 20% difference between two examiners had occurred. The investigation allowed for the usual errors; heparinized blood was employed, and sixteen methods were used on sixteen samples of blood by sixteen observers. The observations showed no real agreement between the different methods as compared with the base line of the National Physical Laboratory, in which iron estimations on the method of King were used. The final conclusions on the significant error were that reported differences of 4% were significant with any one observer and 5% with any two observers. Dr. WOOTTON showed that colorimetric methods were nearer the results obtained with iron estimations than were those by gas analysis, and suggested that grey wedges should be used, calibrated directly in grammes of haemoglobin. Dr. MacFarlane then suggested that the original N.P.L. standard of 13.8 was too low and that we should now accept 14.7 grammes % as the standard 100% haemoglobin. In the demonstrations these workers put up twenty-seven methods of estimating haemoglobin, starting with the Talquist paper and ending with the photo-electric haemoglobinometer, and many members of the audience read the different samples in the different machines, demonstrating a very wide scatter in their readings.

Homologous Serum Jaundice

Dr. JANET VAUGHAN followed with a paper on "The Incidence of Homologous Serum Jaundice after Transfusion," based on cases from the N.W. London Transfusion Depot. The follow-up was done five months after transfusion. A report to the Medical Research Council, by Dr. Vaughan and two of her colleagues, on the incidence, incubation period, and symptomatology of homologous serum jaundice appears in the opening pages of this issue of the *Journal*.

There were many excellent demonstrations, and the meeting ended with a paper by Dr. A. MEIKLEJOHN on "Silicosis."

At the last meeting of the Council of the Liverpool Medical Institution, the President, Dr. G. F. Rawdon Smith, intimated that the following had accepted Honorary Membership of the Institution: Alfred Ernest Barclay, M.D., F.R.C.P., Sir W. Allen Daley, M.D., F.R.C.P., Dame Louise McIlroy, M.D., F.R.C.P., F.R.C.O.G., Charles McNeil, M.D., F.R.C.P., Ivan Whiteside Magill, M.B., B.Ch., D.A., Sir Alfred Webb-Johnson, Bt., P.R.C.S. The Honorary Memberships will be conferred at a special general meeting of the members of the Institution on Saturday, Oct. 19.

TRAVELLING FELLOWSHIPS IN MEDICINE

The Medical Research Council announces that it has awarded Rockefeller Medical Fellowships to the following, for the academic year 1946–7:

Sheila Theodora Elsie Callender, M.D., B.Sc., M.R.C.P., graduate assistant, Nuffield Department of Clinical Medicine, Oxford.

Charles Enrique Dent, Ph.D., M.B., B.Sc., M.R.C.P., research assistant, Medical Unit, University College Hospital, London.

Arthur Morgan Jones, M.Sc., M.B., M.R.C.P., Leverhulme Research Scholar (Royal College of Physicians), University and Royal Infirmary, Manchester.

Alistair Mitchell Macdonald, M.D., F.R.C.P.Ed., Department of Pathology, Edinburgh University.

John Edgar Morison, M.D., B.Sc., lecturer in morbid anatomy, Queen's University, Belfast.

Francis Thomas Carnet Prunty, M.D., M.R.C.P., lecturer in chemical pathology, St. Thomas's Hospital Medical School, London.

Francis Felix Rundle, M.D., B.Sc., F.R.C.S., surgical specialist, R.A.M.C., lately chief assistant and registrar, Westminster Hospital, London.

John Swinney, *M.C.*, M.D., M.S., assistant surgeon, Department of Urological Surgery, Newcastle-on-Tyne General Hospital.

The Council has also awarded a Dorothy Temple Cross Research Fellowship in Tuberculosis to Thomas Francis Jarman, M.D., assistant tuberculosis physician, Welsh National Memorial Association.

Correspondence

Classification of Psychological Disorders

SIR,—There is so much variety in the classification and nomenclature of psychological disorders that argument and discussion about psychiatric problems easily become confused unless the participants take care to be precise in defining their terminology. The interesting paper by Dr. Sands in your issue of Aug. 31 would, I think, have gained much if he had done so. Under the heading Anxiety Neurosis, for example, he writes: "There is every likelihood of doing more harm than good in attempting to treat anxiety states with E.C.T." What is Dr. Sands's definition of an anxiety state? In descriptive terminology this should mean a state of anxiety, and this is what it does mean to many psychiatrists, but from the heading which governs the sentence I have quoted it appears that anxiety state is for Dr. Sands synonymous with anxiety neurosis. If so the reader should know what is his definition of neurosis. From some of his statements one might conclude that his distinction between neurosis and psychosis is that in the former the affective disorder is reactive and in the latter endogenous. This would be a conventional and intelligible distinction in terms of aetiology (instead of symptoms) and applied to the paragraph under discussion would mean that E.C.T. is of no value for reactive anxiety states, leaving open the question of its value for endogenous anxiety states. But Table V includes reactive depressions among "mild or moderately severe psychotic cases." Does Dr. Sands mean that depression whether endogenous or reactive is a psychotic symptom and anxiety a neurotic symptom?

In Table III he produces figures to show that E.C.T. gives better results in depression with anxiety than in anxiety neurosis, but I find it difficult to discover from his paper what precisely is his distinction between the two. It is presumably not symptomatic because he states that anxiety and depression are to be found in both. If aetiological, the distinction is not made clear. A third possibility is suggested by a sentence in his discussion of differential diagnosis in relation to E.C.T. which reads as follows: "The truth is that in this direction treatment has outstripped diagnosis and is likely to be more accurate than the clinician." This statement I find obscure, but it looks as if it might mean that the best criterion for diagnosis is the response to E.C.T. and that if a case previously diagnosed anxiety neurosis responded to this treatment the diagnosis might be altered to depression with anxiety.

I see no objection to the classification of psychological disorders in terms either of symptoms, aetiology, or response to specific treatment so long as each method of classification is clearly and separately defined, but it seems to me that in this paper, as in many other contributions to psychiatric literature, these different kinds of classification are confused, with the result that the data and conclusions are deprived of much of their value.—I am, etc,

London, W.1. C. P. SYMONDS.

Painful-feet Syndrome

SIR,—I have read with considerable interest the article (Aug. 24, p. 260) entitled "Painful-feet Syndrome among Prisoners of War in the Far East," by J. A. Page. As a medical specialist in the main P.O.W. hospital, Singapore, my time and thoughts were exercised to the full by the outbreak of this syndrome among many hundreds of our fellow-prisoners five to six months after our capture. The syndrome was preceded by manifestations of vitamin B deficiency—lesions of the mouth, tongue, lips, and scrotum attributable to deficiencies of B_2 factors, and later the dermal lesions which have given the pellagra syndrome its name. At about the time of its onset retrobulbar neuritis began to occur frequently, and in much smaller numbers a form of keratitis which we termed granular cornea. I observed no constant vascular or neurological changes except tenderness of the soles on pressure. Redness of the feet could usually be explained by the constant massage to which they were subjected. Increase of the knee- and ankle-jerks was found in a number, but this was probably evidence of the beginning of our next deficiency syndrome, which manifested itself by signs of pyramidal system disorder.

The author's description of the early clinical picture coincides with that seen in Singapore with the exception of the change in the tendon reflexes. I submit that the later signs were dependent upon climatic conditions. Our chronic cases continued in the same state for many weeks or months, perhaps developing other of the deficiency syndromes such as retrobulbar neuritis or a spastic paraplegia, but never cyanosis of the limbs, gangrene, etc. Under the heading of discussion the author mentions that in the later months of 1942 many of the cases were complicated by the nerve lesions of pellagra. I assume that these lesions would include evidence of pyramidal system involvement resulting in spastic paraplegia.

As regards the nature of the painful-feet syndrome, the only references I could find in 1942 were Kingsbury's report in Manson's *Tropical Diseases* and an account by Pallister in the *Journal* of the Malaya Branch of the B.M.A., September, 1940. The most significant reference to my mind was the following from the description of pellagra in Manson's textbook: "Another characteristic symptom is a feeling of burning in the palms of the hands and soles of the feet." The syndrome under discussion is that of painful feet, but burning feet was frequently used as an alternative description in our camp, and a small proportion of the severe cases suffered the pains in their hands as well. This led me to believe that the syndrome was probably part of the pellagra symptom complex, and I started using nicotinic acid in the form of "coramine," "nicamide," and nikethamide for its alleviation. The results were most satisfactory and dramatic in the majority of cases. The dosage finally decided upon was 1.7 ml. intravenously twice daily for five days. In successful cases improvement started within three days.

Many cases were treated as out-patients, but unfortunately I have no records of them. Of one hundred and seven hospital case records which I extracted eighty-eight received "nicotinic acid" with the following results: Cured, 33 (37.3%). Very much improved, 26 (29.5%). Better, 25 (29%). No improvement, 2. No record of result, 2. Relapses occurred some weeks later in some cases, as there was no improvement in the diet.

As only indifferent results were obtained in Page's cases from nicotinic acid therapy it would be of interest to know the dose and method of administration tried.

One other point of interest: a battle casualty who had lost one leg by amputation through the thigh had pains in both feet.—I am, etc.,

Chester. PHILIP R. GRAVES.

Problems of Pneumoconiosis

SIR,—In the *Journal* of Aug. 31 (p. 301) there appeared a leader on the very important subject of "Assessment of Disability in Dust Diseases of the Lung." In the final paragraph of this an ill-advised personal boost was given to the distinguished director of the Medical Research Council's unit in South Wales. This has been accompanied in the national daily press by further journalistic fantasy. No doubt the distinguished director is fully aware of all the difficulties, but my former colleagues of the Medical Board for Silicosis and Asbestosis who have been most intimately associated with this problem have been perhaps even more keenly aware of these difficulties—and for a considerably longer period of years. The designation "benign pneumoconiosis" is not new and was current before 1945.

Under the present system of workmen's compensation the workman, when injured by a compensatable accident or disease, is not entitled to compensation for the injury as such or for disability arising therefrom but only for loss of earning capacity, and even then not for the whole loss. So far as the pneumoconioses are concerned, compensation in respect of death, total disablement, or suspension is restricted to workmen engaged in certain defined industries and processes (and these workmen only) as provided for in special schemes. On what evidence or authority can your writer assert that "the assessment of disability . . . at present is decided largely by radiographical appearances," or again that "many men with reticulation who are not disabled are obtaining disablement certificates"? One can only assume that this refers to official certificates under the schemes. If so, this involves a serious criticism of the Chief

Medical Officer and other members of the statutory Medical Board for Silicosis and Asbestosis. Hart and Aslett may have expressed the opinion that only a "small proportion of these reticulation cases were *significantly* disabled," but they were not necessarily right and the Medical Board wrong. In any case the Medical Board are not required to certify whether the workman is significantly disabled. If they grant a certificate it must be completed in the prescribed form and in accordance with the marginal directions without ifs and buts and such qualifying adverbs as "significantly" or "substantially." In fact, they may and do certify in certain cases that the workman's general physical capacity for work by reason of the disease is not impaired.

There are many other serious inconsistencies and anomalies in the subjective commentaries, reflecting a lack of intimate personal experience of the compensation problems and the operation of the schemes. The assessment of disability is a pressing problem, but even more urgent is the natural history of dust reticulation in coal miners. Is it merely a dust tattooing of the lungs? Is it progressive? Is it a disease, benign or otherwise?

In conclusion I venture to wonder how long we must wait before those responsible for directing researches will recognize that in clinical investigations the field workers have a substantial contribution to make in the course of their routine work. Is all their experience for naught, simply to be passed to the care of others, while they, the field workers, are reduced to the drudgery of compiling official records and certificates and to suffering in silence derogatory comparison and anonymous criticism?—I am, etc.,

Glasgow, N.W. A. MEIKLEJOHN.

Pathogenesis of Cancer

SIR,—The "Hypothesis on the Pathogeny of Cancer" written in 1927 by your correspondent (Aug. 31, p. 311) A. Curieses del Agua was anticipated at least twenty years earlier by Blair Bell who, investigating the effect of lead in cases of chorion epithelioma, attributed the disease to the death of the foetus *in utero* and consequent removal of the "endogenous stimulus."—I am, etc.,

Putney Heath, S.W.15. SARAH WINSTEDT.

Oestrogens and Prostatic Carcinoma. Transurethral Prostatectomy

SIR,—I should like to clarify and add to my remarks with reference to the relative potency of stilboestrol and dienoestrol in the treatment of carcinoma of the prostate (Aug. 10, p. 191). The statement that dienoestrol is three times as active oestrogenically as stilboestrol was made in a personal letter from the manufacturers or central distributors. I am now informed on the highest authority that this statement is not clinically correct. The side-effects, however, with dienoestrol have, in my experience, been much less in evidence than with stilboestrol.

Mr. Terence Millin refers in his letter (Aug. 31, p. 309) to the "inaccurate figures and erroneous conclusions" contained in my letter (Aug. 17, p. 241) and gives his total for transurethral resection operations on the prostate as over 1,600. I had attributed to him a total of 219 cases. The figure of 219 was taken from a table in his paper (*Proc. roy. Soc. Med.*) which he described as "showing my own results where a selection of methods was employed." In the absence of any reference in his paper to any series where a selection of cases was not employed, I concluded that it had been his routine practice to employ such a selection of methods. It is now evident that Mr. Millin intended to convey the idea that this table referred to a particular group, distinct from a much larger group containing approximately 1,400 transurethral resections. In searching his paper for any reference to the existence of this larger group I have only been able to find the statement "in my last 200 cases I lost 8. I have had better series, etc." Noting his use of the word "better" (rather than larger) it appeared to me that this 200 was included in his figure of 219. It is on these points that the misunderstanding has arisen. After re-reading his paper, I can only admit that the facts and conclusions contained in my letter were understandable interpretations of elliptical statements.

My support is for transurethral prostatectomy with the cold punch. It was only after my change over from the diathermy loop to the cold punch that transurethral prostatectomy successfully challenged abdominal prostatectomy. Mr. Millin's transurethral resections have mainly been carried out with the diathermy loop.—I am, etc.,

Manchester. H. T. COX.

Tobacco and Ulcer Dyspepsia

SIR,—The article by Mr. R. A. Jamieson, Prof. C. F. W. Illingworth, and Dr. L. D. W. Scott under this heading (Aug. 31, p. 287) is of great interest to many, like myself, who have given up the use of tobacco because of indigestion. In my personal experience cigarette smoking invariably brings flatulence, heartburn, and eventually actual pain in its wake; pipe smoking is followed by none of these symptoms.

Is it not possible that the difference lies not in the actual absorption of the drug in the two types of smoking, but that in cigarette smoking the smoke itself irritates nerve endings in the upper respiratory passages, thereby causing reflex pylorospasm? This interferes with the normal reflex of chyme from the duodenum, with the result that acid accumulates in the stomach, producing acidity and heartburn. When the pylorus does relax an accumulation of acid is expelled into the duodenum, thereby aggravating a pre-existing ulcer or possibly even producing one.

It is not necessary to be a heavy smoker for these symptoms to arise; a few cigarettes daily will produce irritability of the pylorus, hence the fact that heavy smoking does not make a great difference. I think this theory would also explain the great benefit derived by this type of dyspeptic from a mixture containing belladonna and soluble phenobarbitone.—I am, etc.,

Tavistock. T. M. DAVIE.

Effects of Tobacco

SIR,—Before the war I vaguely subscribed to the belief that the use and especially the abuse of tobacco were harmful in varying degrees at least to the digestive and cardiovascular systems. Five years of work in British general hospitals overseas have given me ample opportunity to observe a large population smoking to excess, and in many cases to gross excess. Sixty cigarettes a day was a common consumption, and not a few confessed to eighty or more. Yet even with this bias of preconceived opinion I was unable to ascribe with confidence a persistent cough, a bout of dyspepsia, or even an extra systole to the harmful effects of tobacco. This still seems to me remarkable, and no less so when one recollects the various foul brands of unfamiliar name which at times were smoked *faute de mieux*.

The recent paper by Prof. Illingworth and his colleagues (Aug. 31, p. 288) indicates that no case can be made out against tobacco even in the presence of ulcer dyspepsia. But although it has not been shown to be a cause of organic change, there is no doubt that it affects, functionally at least, the respiratory system. While smoking shallow breathing is the rule, and "chain smokers" have a constant functional reduction of vital capacity. This "poor wind" is very noticeable in those who smoke while engaging in physical work, a habit which has become widespread during the war.—I am, etc.,

Glasgow. JOHN FLEMING.

Smallpox in the Vaccinated

SIR,—I feel I cannot let paragraph two of Dr. C. Killick Millard's letter (Aug. 24, p. 274) pass without comment. Dr. Millard states: "The failure of successful revaccination to protect completely for even eighteen months is certainly surprising and rather disquieting . . . and affords a warning against over-confidence in its efficacy." To me it means only one conclusion, that the man in question was inadequately revaccinated in 1942.

The Army Forces were vaccinated by one scarification only until 1944, after which the Army Order came into force whereby three scarifications were made, one a control. Why this change? I can only surmise because the Army authorities experienced much modified smallpox in the Middle East and India, causing them to realize that personnel were not adequately protected by one scarification only. This being the case the originator of the outbreak of smallpox in Middlesex during 1944 would have been revaccinated with one scarification in 1942, and to me it

is by no means surprising that in contact with smallpox in 1944 he developed a modified attack. Why then should the efficiency of vaccination be in doubt? Surely the fault lies with us in inadequate vaccination; we expect too much from one scarification. If I may use a simile—should one cease the treatment of gonorrhoea with sulphathiazole because we have found that with a dose of one tablet t.d.s. we cannot cure this disease? Or should one lose faith in the efficacy of T.A.B. vaccine for the prevention of typhoid when we find that 0.5 ml. fails to protect the patient?

In my letter (June 8, p. 889) it will be noted that of the four cases of smallpox reported three were modified, and subsequently a fifth case developed, also modified in type; surely a very high percentage, and the only conclusion we can come to is that these men were inadequately vaccinated. In October, 1944, I vaccinated a member of the crew who bore good marks from vaccination in infancy, and who had been unsuccessfully vaccinated in 1939, 1940, 1941, and 1942. I used one scarification only, and the result was a very severe take. The person in question ran a temperature of 104° F. (40° C.) for three days, and the arm took five or six weeks to heal, leaving a scar the size of half a crown. This man, along with the rest of the crew, was revaccinated on Mar. 1, 1946, some eighteen months later, and I used three scarifications, and rather to my surprise all three took well. This proved to me that I had inadequately vaccinated the man in 1944, and had he been exposed to smallpox I should not have been surprised had he developed a modified attack.

I am quite sure it is time that we realized that vaccination will not protect for seven years; I doubt if it protects for much more than two years. Once more, Sir, may I stress what I consider in these days a most important point, namely, that when we vaccinate we should vaccinate adequately, particularly those whose journeys take them to or bring them from countries where smallpox is endemic.—I am, etc.,

London, S.W 1. F. K. BEAUMONT.

Food-poisoning in Boston

SIR,—In the note about the recent outbreak of food-poisoning in Boston, Lincolnshire (Epidemiological Notes, Aug. 31, p. 316), it is stated that "*Salm. typhi-murium* has been isolated from the stools of notified cases but not from the ingredients of the ice-cream." Although this statement is true, it might prove misleading by implying that the organism was not isolated from the ice-cream. *Salm. typhi-murium* of the same phage type was in fact first isolated from the ice-cream before being isolated from the stools.—I am, etc.,

Lincoln. J. M. CROLL.

Artificial Leg for Women

SIR,—I wish to raise the question of designing an artificial leg really suitable for a woman. I do not know what the proportion of one-legged women to one-legged men is to-day, but I should imagine it is not far off 1 to 2, and that it is increasing; as not only did the war leave us a legacy of many women who had lost a leg in air raids or in one or other of the Services, but also there are road accidents which are no respecters of sex, and, with more women in industry, more may be crippled at work. In spite of this, however, there is still no artificial leg made which is specially designed for use by women.

I have thought this for a long time, but I am moved to write to you on the matter because I have just had a letter from a young woman, an art student, who lost a leg in an accident some two years ago and has now at last been fitted with an artificial leg. Although she is quite pleased with the limb and is very glad to be walking on two legs again after so long on crutches, so that she can now go out without, as she puts it, "being the object of that embarrassing attention that the passer-by accords to every one-legged woman on crutches," she is nevertheless disappointed in some respects. She makes certain criticisms—some mechanical, some cosmetic. Her first complaint is the range of movement possible at the hip; she has a perfect hip-joint and her thigh stump is ten inches long, yet the limb is so attached and slung that without feeling insecure she cannot abduct her limb at all, and movement is virtually limited to pendular to-and-fro action only. She was told before she had her artificial leg that it would let her dance, but with this limitation dancing is practically impossible; men, on the other hand, she finds out, are fitted with a different type of suspension, which allows full abduction and so enables even above-knee amputees to dance. This suspension apparently is never given to women as it is somewhat bulky and shows under their clothes. Surely, she asks, it is time some limb-maker designed a suspension allowing full movement which could be worn under a woman's clothes.

The next criticism is that the standard shape of the socket is triangular; this is well suited to the more angular stumps of men, but women amputees, particularly a little fat, like my friend, have rounded stumps. In consequence, as she points out, her limb tends to slip round on her stump, which upsets her walking altogether. This seems a small point to correct, but it is probably a question of going against preconceived ideas.

Her next point is the way the foot is attached to the shin-piece; this is done at a definite angle depending on the height of heel it is wished to wear, but the ankle movement is so limited that there is very little latitude possible in height of heel. If a woman wishes to wear a one-inch heel during the day and say a 2½- or 3-inch heel in the evening, she must get two different artificial legs, one for each height of heel. Is it not possible to design a limb which incorporates some simple adjustment for heel height? My friend tried wearing a higher heel than her limb was designed for, and found it nearly threw her on her face; so this is not, as she says, "just a bit of sales talk."

On the cosmetic side her criticism is chiefly that the standard shin is made to the conformation of a man's leg irrespective of whether the leg is for a man or a woman, so even at rest and stockinged a woman's artificial leg is always obvious. The measurements are the same for the artificial shin as for the natural one, but the shaping is all wrong; thus the calyx of a woman's calf is quite missed. She makes the interesting suggestion that the shin-piece of an artificial leg for a woman should be made not of shaped metal, but that support should be given by a simple metal tube round which is built in sections a properly shaped leg carved out of some very light wood such as balsa. The finish of the leg also leaves much to be desired; she has to wear two stockings to prevent the hard metallic glitter showing through, and even then in strong sun there is some shine visible.

Her last point is the knee; it is not the right shape for a man or a woman, being too rounded and symmetrical. In these days, she insists, no woman keeps her knees always hidden without being conspicuous. For women's limbs, at least, better modelling of the knees is required. The lines of the joint itself she supposes cannot be made less marked than they are.

It seems to me, though I have no first-hand knowledge of artificial legs, that most of my friend's criticisms are probably justified; in any case I pass them on to you for ventilation in the *Journal*.—With your permission I sign myself

"L.S.S.W."

Hypersomnia with Abnormal Hunger

SIR,—I was most interested to read Dr. James Ronald's excellent article on hypersomnia associated with abnormal hunger (Sept. 7, p. 326). Now that attention has again been drawn to this rare syndrome it is to be hoped that further accounts will be forthcoming from other sources. The cases which Dr. Ronald mentions resemble in almost every respect those described by Dr. Critchley and myself in the *Journal* of Jan. 31, 1942. Dr. Ronald states, however, that in his cases "An electroencephalogram revealed no abnormality, and this is in accordance with the findings of Critchley and Hoffman." In actual fact our first case did show an abnormal E.E.G. Although the resting rhythm was normal, overbreathing evoked a large intermittent delta discharge in both frontal lobes, but this was more regular on the left. No conclusions were drawn regarding the significance of this finding. I am not aware of other cases of the syndrome which showed similar tracings, but in my own experience abnormal E.E.G.s are occasionally found in narcolepsy.—I am, etc.,

Bath. H. LOVELL HOFFMAN.

Recurrent Inguinal Hernia

SIR,—With reference to the particular point of dealing with the radical removal of the hernial sac, forming part of Sir Ernest Cowell's memorandum (Sept. 7, p. 330), I find most satisfactory control to be achieved by passing a hernia-needle, guided by a forefinger, in through the opening where the sac was; sliding the point along the inside of the peritoneum upwards and out through the abdominal muscles to present back into the upper part of the wound. I use it to withdraw inwards and then out through the sac mouth fifteen inches of chromic gut, the lower end of which is used to suture the peritoneal opening, which after suture is inverted upwards and anchored well away from the hernial site by pulling on the other end of the catgut. This is then itself used to close the gap between the muscles and Poupart's ligament, this union being, during healing time, automatically drawn tighter by the very cough which would otherwise tend to thrust sutured peritoneum into newly repaired internal ring. I have used the method for fourteen years.—I am, etc.,

Perth. ROBERT NAPIER.

Serous Pleural Effusion

SIR,—In your leader on serous pleural effusion (Sept. 7, p. 333) I was sorry to see no reference to perhaps the most important contribution on the subject. I refer to Dr. Brian Thompson's paper to the Tuberculosis Association in May of this year. This paper is summarized in the Association's abstracts. Thompson's cases numbered 190, and of these only one patient was lost sight of, and he had emigrated to Canada; of the remaining 189, no less than 25% developed phthisis within five years, while 3.5% died.—I am, etc.,

Edgware. STEPHEN HALL.

Health Service Bill

SIR,—The five major points of disagreement between Government and the profession are: (1) *Direction,* i.e., requirement of seeking sanction of the Service. (2) Rendering doctors in the Service liable to dismissal with *no right of appeal.* This putting of persons absolutely in the hands of a Government department is the essence of the loss of civil freedom. In these matters doctors are only a chance group of the nation on whom the proposed restrictions are first to be placed. These features concern our rights as citizens, not as doctors; we must resist these. (3) The question of *ownership of practices by Government,* and (4) *basic salary,* are in a different category. There is less unanimity in the profession about these, and I believe accommodation may be possible here. As to (5) *the State owning all the hospitals,* it seems that matters have moved too far to be reversed. Willing support has already been diminished; damage has been done irretrievably. Further, there is among specialists and consultants a view rather favourable than opposed to these Government plans.

The following proposals are submitted as a possible means of avoiding tragic conflict which, even if it does some good, will surely bring harm in its train through bitter words and misjudgments. (*a*) Government to give way on the right of appeal and direction of doctors. (*b*) The profession to give up its opposition to the hospitals plan. (*c*) Government to undertake to suspend for eight years the ideas of purchasing all practices, of prohibition of sale of practices, and of basic salary. During this period the profession shall work the new Service and arrange matters so that all parts of the country are fairly supplied with general practitioners without having recourse to direction. The profession, on its part, to undertake that, if at the end of the time there is any question as to the satisfactory distribution of doctors, it will refrain from opposing the putting into operation of the present Bill's proposals: subject of course to necessary financial alterations consequent on changed conditions. Government to undertake that if distribution of doctors be satisfactorily accomplished it will repeal the present objectionable features.

During this period a scheme, other than basic salary for all, would be tried out with the official help of the profession: the profession would also implement its frequently expressed ability to arrange for young doctors to buy practices without intolerable financial burdens. These two aspects would necessarily mean official financial backing by the profession. Government would naturally retain the right (similar to that in the N.H.I. Acts, and that proposed in Section 43 of the present Bill) to take any necessary action in bad spots.

Should some such compromise be adopted two immense gains would accrue: An open road for negotiations to take place on the numerous less fundamental points of disagreement which are probably capable of arrangement; and a changed prospect before the new National Health Service from one of grudging acquiescence by a discontented profession into cordial co-operation.—I am, etc.,

Luton. B. RANDALL VICKERS.

SIR,—As a profession we stand in a unique and peculiarly responsible position towards our fellow men and women. We have an inescapable duty towards them, and it is high time to stop timid appeasement and act unitedly with courage and determination. The issue is plain. Dr. Waddell has gone into details in his admirable letter (Sept. 7).

This Health Service Bill is fundamentally dishonest: towards the voluntary hospitals, towards the medical profession, and towards the people of England. It is really a political measure to ensure control by a bureaucratic tyranny, i.e., by a totalitarian State. Recently a Socialist M.P. told a friend of mine that this Government intends to take control of the medical profession first, because it is by far the most important one, and has the most power over the people. After that, he said, it will be easy to take control of the other professions, one after the other. Our duty is plain: We must oppose this with all our might. Whether we like it or not we are now the guardians of English freedom and individual responsibility. We must say no quite categorically and with no reservations whatever to the whole Health Bill. But if it passes, as with the Government's large majority it very probably will, our duty is still clear. We must make it a dead letter. We must of course treat our patients as usual but must refuse to sign any certificates whatever. This will involve hardship, probably to many thousands, but only for a short time. The Act will be dead in less than a month.—I am, etc.,

Winchester. SYBIL TREMELLEN.

SIR,—Like most doctors we are in favour of a State Medical Service, and endeavoured to assess the new Bill in the light of its merits as a medical measure. Seen as such, it has much to commend it. Unfortunately the question is not so simple, and it was only when we realized that larger and more important issues are involved that we modified our first impressions, and ultimately came to a definite decision that the Bill must be opposed at all costs.

Individual freedom is rapidly disappearing in this country. The new Health Bill is a severe blow to what remains of the liberty of the individual for the following reasons: (1) It is compulsory. All must contribute to it. No doctor will be able to exist outside it. (2) The preventing of an Englishman from working where he chooses in England is an entirely new restriction and a very serious matter. (3) Not since mediaeval times has anyone had power in this country to dismiss an Englishman from his job and prevent him from obtaining another job in his profession. (4) Never since Magna Carta has anyone been able to refuse an Englishman the fundamental civil right of appeal to the High Court.

Why did Mr. Bevan so strenuously oppose the very reasonable request that we should keep the right of appeal? Because he knows that English judges are still fair and unbiased, and if appeal to them were allowed he would not have the absolute control over the profession which is obviously his aim. These are only a few of the fetters which, if we agree to work the Bill, will be fastened on us and from which we shall never escape. Even at this late moment we still have the choice between submitting to the dictates of Mr. Bevan or striking a united blow for our own freedom and that of the country generally. Once the majority agree to work Mr. Bevan's Bill the choice for the individual doctor will lie between submission or starvation, for no one seriously believes that a doctor outside the scheme will be able to make a living. Few patients will wish to pay private doctors' bills when they are already forced to pay for the State doctor. We have recently acquired a share in a practice after six years of separation

while one of us was in the Army, and we looked forward to taking our part in the State Medical Service. Economic security lies within the scheme. By refusing to join and finding ourselves in a minority we stand to lose a great deal; but so clear cut is the larger issue that we shall have to refuse to join the scheme as it now stands.—We are, etc.,

ZOË HARRIS.
PAUL HARRIS.

Langport.

The Epileptic at Risk

SIR,—On Jan. 18, 1946, I examined at the request of Dr. Sheppard, of Bridgwater, a woman aged 35 with a history of major epileptic attacks 15 years. I considered the diagnosis was unquestioned, and that there was considerable hysterical overlay. Electroencephalography showed an extremely wide spread of energy with activity in low, medium, and high bands, while frequency analysis showed that the general distribution of energy resembled that of the "spike and wave" spectrum of petit mal. It was considered that this electroencephalogram was strongly suggestive of epilepsy, with a liability for the patient to have both major and minor seizures. On my recommendation the patient received "epanutin" (sodium diphenylhydantoinate) 0.1 gm. t.d.s. with "luminal" (phenobarbitone) gr. 1/2 in the morning and gr. 1 at night. This therapy was instituted from the beginning of February. Three months later the patient's condition was reported considerably improved, with very marked reduction of fits and a general improvement in emotional attitude. On July 28 the patient and her mother went down to Devonshire on holiday. There they made contact with a Christian Science practitioner who apparently undertook treatment of this case. While in the house of the practitioner on Aug. 5 a local medical practitioner saw the patient and ordered her immediate removal to the North Devon Infirmary. She was admitted forthwith, and died the same day. At the inquest, as reported in a North Devon paper, the jury found "that death was due to exhaustion following epilepsy accelerated by the deceased being removed from constant qualified medical treatment." The coroner: "That means a verdict without culpability in the legal sense."

When it is considered advisable to put a patient on such a régime as I have detailed above every care is taken that patient, responsible relative, and general practitioner in charge are informed of the hazards involved in a discontinuance of "epanutin" without adequate premedication with phenobarbitone. I feel, Sir, that this admittedly unusual risk should be considered by our profession, though the application of a proper safeguard would seem to be difficult.—I am, etc.,

R. SESSIONS HODGE.

Taunton.

India's Problem

SIR,—I entirely agree with the opinion expressed by Sir John Megaw (June 29, p. 994) regarding the population of India. In my article on toxaemia of pregnancy read before the Scientific Section of the XVIII All India Medical Conference held at Hyderabad (Deccan) in December, 1941, which was also published in the *Indian Medical Journal* dated May, 1942, I concluded as follows:

> I fully realize that in our unfortunate and poverty-stricken country, where superstition and ignorance are rampant, and where children are born like rabbits, it is difficult to make our womenfolk go to the too few antenatal clinics in our country. If I had the power I would sterilize all men who have had more than three or four children, and have a clinic to teach contraceptive methods in all hospitals and dispensaries, and even induce abortion whenever anybody wants it.

As one who has practised midwifery for the last twenty-seven years I have come across hundreds of poor women of different communities who requested me to do something to stop their becoming pregnant any more. While the man only wants to satisfy his carnal pleasure it is the woman who feels miserable at her inability to feed, clothe, and educate her ever-increasing family—let alone the ruination of her health.

Is it any wonder that the average life of an Indian is only 27 years—the lowest in the world—that the average income per head is only Rs. 64, As. 6 per annum, and that a great majority are always submerged in debts?—I am, etc.,

T. D. RAJOO.

Secunderabad.

SIR,—I was glad to read the very courteous letter from Dr. Annie Megaw Brown (Aug. 24, p. 280). In particular I would like to congratulate her on the clarity with which she presents the two essential features of the situation in India: first the shortage of food in relation to the size of the population, and second the fact that what is needed in India at present is food rather than medicine in the majority of cases. The point of difference between Dr. Megaw Brown and myself is one of practical politics. There are many people in this country who have a slightly uneasy conscience in regard to India, but who are readily comforted by the dogmatic assertion that "Indians breed like rabbits," and that, therefore, there is no point in doing much about famine relief since it could merely encourage further rabbit-like behaviour. To focus attention on problems of population and birth control at a time when India is in the grip of famine is to encourage this inhuman attitude and so reduce support for the efforts of the India Relief Committee to place India's case for an increased allocation of food exports fairly before the food exporting countries. Surely it is obvious that of the two variables, food supply and population, the former can be altered more readily than the latter. The cases which Dr. Megaw Brown quotes are additional evidence, if any were needed, that India, though an ally, is faring much less well than our ex-enemies Germany and Japan. It is obvious that distribution of imported grain in a country such as India presents special economic and administrative problems. (If the average income is inadequate to purchase 10 oz. (300 g.) rice a day this would suggest that possibly the price level is fixed too high.) This is however no excuse for abandoning the effort to obtain supplies for India's starving millions until such time as that country is able to set her economy in order and utilize her vast natural resources, which when mobilized are more than adequate comfortably to support her present population.—I am, etc.,

BRIAN H. KIRMAN,
Major, R.A.M.C.

Dumfries.

Colonial Medical Service

SIR,—The letters appearing in your columns from various parts of the Empire portray the existence of some degree of general discontent at present conditions in the Colonial Medical Service. From my own experience and from discussion with members from different sections of the service I feel the discontent is justified. There is an acute shortage of staff, but this is not entirely due to the war. Many good men, some of them under fifty, have retired within the last twelve months, and it would not be far wrong to say that most of them did so for financial reasons and a sense of frustration due to stagnation in the senior ranks. It may be reasonable to assume that unless something is done to improve the terms of service it will become increasingly difficult to maintain the Service at strength. For very few men will commit themselves to almost lifelong existence in the tropics, with all that that means, including possible separation from wives and families, for a financial reward which, considering everything, compares unfavourably with that obtainable at home. A man with a D.P.H., for instance, may reasonably expect to be promoted to a senior post at home, such as that of county M.O.H., and receive a salary which may be considerably more than that of the director of medical services of a colony with 4,000,000 or more inhabitants. There are of course "superscale" posts in the Colonial Service, but these are not the prizes one might gather from advertisements. Most of them are worth only £1,200 or £1,300 per annum if one excludes directorships, which are few, which may take a quarter of a century to obtain, and are worth only £1,500 per annum in many of the larger colonies. A comparison with the recommendations in the Spens Report shows the total inadequacy of salaries in the Colonial Medical Service and the necessity for early improvement.

The Service is a good one from a professional point of view and provides wonderful opportunities for original work. Such work is *not* frowned upon, nor is an unduly large proportion of one's time devoted to paper work. One normally gets a fair deal locally and always from the Colonial Office. No service is perfect, and the Colonial Medical Service is no exception, but in spite of hard work, often in most unhealthy localities, I must frankly state that I have enjoyed my time as a member of it. But when I retire after more than twenty-five years'

service I shall have to "look for a job," because a low salary and a low pension factor will give me a pension which will be insufficient for the proper maintenance of my family. That, surely, is wrong.

I would like to see the Colonial Medical Service, which has played such an outstanding part in the development of our Empire, improved and strengthened so as to make it attractive to the best in our profession. It would be a sad day if failure of recruitment were to make it necessary to staff this Service by "directed" (or "pressed") doctors from the U.K.—I am, etc.,

"AFRICA."

Population Statistics in Palestine

SIR,—I am grateful to Dr. I. S. Fox for his rather vitriolic reply (Aug. 17, p. 245) to my letter on Palestine—if only as an example (though sorry it should be afforded by a member of my profession) of the way in which prejudice can blind people to facts. Dr. Fox mentions many things which were present in the minds of most of us who were in the Palestine administration as factors which would eventually increase the power of that country to absorb a much greater population, but all these are long-term policies. The population pressure in Palestine after the 1914–18 war was immediate and urgent, but its needs could not be met until world conditions had improved. The unlearned Arab could not know this, nor could he realize that his own natural increase was a main factor in his increasing misery. What he did see was a lot of new people threatening to dislodge him, and he naturally jumped to the conclusion that they were the cause of his own food difficulties. It was this situation which we foresaw, which I tried to describe, and against which we tried to guard.

If Dr. Fox could get hold of the White Paper which gives Sir Herbert Samuel's report on the first Jaffa riots he would see that in it he confirms that it was the impossibility of the country to absorb so many new people—immigrant and home-born—that was the immediate cause of the riots; in other words, that the medical reading of the population statistics was correct. This fact makes hay of all Dr. Fox's arguments, which are unsound on the face of them, as they quite overlook the time factor which my letter emphasized. I hope that this time I have made myself clear. If Dr. Fox had been in Palestine at the time and seen, as I had, grain prices redouble themselves in a month I do not think that even he would have wished to admit more people; and he would have recognized that the advice given was, as I said, "in the interests of Jewish immigration," and not with any idea of obstructing the aims of the Government we were engaged to serve.

A common Arab proverb runs: "Haste is of the Devil." If the Zionists had given due heed to the customs of the East, as the pre-Zionist Palestinian Jews did, they might now be enjoying friendly relations with their neighbours.—I am, etc.,

Winsford. W. N. LEAK.

*** This correspondence is now closed.—ED., *B.M.J.*

Prevention of Venereal Disease

SIR,—Let it be granted that it is a heresy "that to refrain from promiscuity is unnatural, abnormal, or even detrimental to health," yet Mr. W. Wagland (Aug. 31, p. 313), who asserts this proposition, has apparently failed to appreciate the point that Dr. G. G. Thyne was trying to make. Unfortunately the latter overstated his case by making the exaggerated statement, "It would be a very strange man, whether he was a venerable dean or a bus conductor, who has not at some time or other run the risk of venereal infection." If he had contented himself with saying "many a man, whether venerable dean or bus conductor, has at some time or other run the risk of venereal infection" few would have cavilled. To say, however, that it is "strange" not to run such a risk argues a very limited experience of men and women and opens the way for such replies as that of Mr. Wagland, who regards such an assertion as being an insult to a large body of men and women who deliberately choose continence until they are married.

The purpose of Dr. Thyne's letter was to advocate compulsory treatment for venereal disease. (It is to be noted that both letters are headed "Notification of Venereal Disease," but in neither case is there any mention of notification.) Obviously the large body of men and women to which Mr. Wagland refers is of no importance in connexion with control and prevention of venereal disease, for by definition they do not run any risks. Obviously if the large body made 100% of the community the venereologist would no doubt be enjoying premature superannuation. Any large population group, however, consists of all sorts and conditions of men and women, some of whom do in fact run risks of acquiring venereal disease and many of whom may rationalize their promiscuity as being necessary for health. The fact that it is a heresy will not stop them, for they are driven by far more powerful urges than an enlightened appreciation of what is good for health.

When to promiscuity there is attached a very considerable degree of social irresponsibility it becomes arguable that compulsory treatment of venereal disease should be a matter of legislation. The experience of the health authorities in the Scandinavian countries is a strong point in favour of such legislation. It would be found as a matter of practice that in only a small proportion of cases of venereal disease would it be necessary to use compulsion, but it is in just that proportion that compulsion is the only remedy, since persuasion is of no avail. Liberty of the individual is a fine ideal, but that liberty should not imply the freedom to spread venereal disease and thus injure other members of the community.

Mr. Wagland's letter is a valuable contribution to the long-term policy of prevention of venereal disease, but absorption in such a policy must not be an argument for ignoring the fact that all men and women are not yet as Mr. Wagland would have them. We must not confuse what is with what ought to be. While the human animal in spite of all his achievements in some spheres remains on the whole a poor creature, it is but wisdom to say, "There, but for the grace of God, go all of us."—I am, etc.,

London, E.1. F. R. CURTIS.

Protection Against Sexual Offences

SIR,—I am a little at loss how to answer Dr. Liebster's letter since it is difficult to believe that he is serious in his suggestion that every person convicted of a sexual offence against a woman or child should be castrated. He says that treatment should not be given because few patients appear to benefit from psychotherapy. He must be singularly unfortunate in his patients. Psychiatric clinics such as the Tavistock Clinic have published results which show that psychotherapy compares well with any other branch of medicine. Does Dr. Liebster suggest we should exterminate the tuberculous, for instance, because they are likely to infect others and are difficult to cure? With regard to castration I wonder if Dr. Liebster is familiar with studies of the Skoptzys and the eunuchs of the Chinese imperial palace. They often retained their sexual desires and capacities. Burton in his *Pilgrimage to Al Madinah and Meccah* mentions eunuchs who kept a number of wives. Castration was tried in Germany and America as a cure for sexual offences but seems to have been abandoned because it was ineffective. In any case to use it in such a wholesale way is using a steam hammer to crush a nut, besides being abominably cruel. Surely as physicians our aim is to try to cure and not to mutilate or punish.—I am, etc.,

London, W.1. CLIFFORD ALLEN.

SIR,—Not so much as a prospective doctor (though I do happen to be a medical student) but as an ordinary citizen am I impelled to protest against Dr. L. B. Liebster's suggested penalty of obligatory castration for those convicted of sexual offences (Aug. 31, p. 313). How can a mutilating operation of this kind possibly be justified on social or ethical grounds? It carries to a monstrous extreme what is often called, far too euphemistically, "protective legislation." Underlying all such proposals one finds an over-simplified conviction that any means, however barbarous, justifies the dubious end of fool-proof social security. I submit that, while agreeing with those who regard the deterrent aspect of punishment as a legal and sociological necessity, we must draw a line—a pretty sharp, definite line, too—between what is ethically permissible and

socially convenient. This matter was well stated by an eminent jurist when discussing the problem of abolishing corporal punishment. Would it not, he remarked, be an admirable deterrent if we punished shoplifting by cutting off the offender's hands? On the same principle clearly Dr. Liebster would eliminate the organ which enables the offence to be committed. Does he not see the ultimate cruelty and absurdity of this philosophy?

My suggestion is that doctors should tread with care in matters concerning the reform of criminal law. They seem more often than not to display a crude ignorance of the juristic principles involved. If Dr. Liebster and others consider the penalties for sexual offences inadequate, are they possibly unaware that the convicted person can be sent to penal servitude for life? Furthermore, in respect of these people being found insane they can be safely lodged in Broadmoor. Anyway let us hope the law will think several times before it resorts to operative surgery in punishing criminals.—I am, etc.,

London, S.W.10 J. A. FLETCHER.

SIR,—Dr. L. B. Liebster is pessimistic regarding the use of psychotherapy in the treatment of ungovernable erotomania leading to sexual assaults on women. And how should such pessimism be other than justified in a civilization which does not officially distinguish between self-control and control *ab extra*—indeed, which is constantly increasing the latter, and at great expense, in all walks of life? Assuming, then, further steady extension of the bureaucratic principle—i.e., the principle of forcing other people to be good—and assuming that young women are to continue going freely about the streets, not a few serious thinkers will be considering a possible need for the compulsory *veiling of women*, such as happened at the time of the rise of Islam. Indeed, so long as the leaders of civilization remain unaware of how to promote self-control in the individual the Moslem solution may prove the only alternative to wholesale compulsory sterilization of the male.—I am, etc.,

North Queensferry. A. J. BROCK.

*** This correspondence is now closed.—ED., *B.M.J.*

Pronunciation of Medical Words

SIR,—The derivation of our English words is always an interesting and instructive subject, especially to those who have had the advantage of having learnt something of Greek and Latin in their school days. I do not remember, though, that any of my schoolmasters ever troubled to give my classmates any instruction on this subject, which it seems to me now would have interested and afforded a pleasant quarter of an hour to his listeners. That no such instruction is given in our schools in these modern times would appear to be evident from one little incident which has given small jolts to my educational self-esteem during the past two or three years.

When doing assistantships in various parts of south-west England a case of gall-bladder trouble in my family caused me from time to time to visit chemists' shops to obtain cholelith pills. I have always pronounced the word "cholelith" with a hard ch, as in "choir" (Greek χορός) or "chronic" (Greek χρονικός) or even, to come more closely to the medical profession, as in the word "chemist," which is derived from the Greek word χημία, and which came to us through the French *chimiste*. Almost invariably my request for a bottle of cholelith pills has been met by the bright young person (generally female) behind the counter with the either pitying or contemptuous reply, "Oh! You mean chollylith pills," pronouncing the ch soft as in "chocolate," "choice," and "chuck." These rebukes or corrections from the chemists' assistants I always received with humility. It was wartime, so why be quarrelsome?

However, my latest experience has changed all that. The proprietor himself joined in and publicly rebuked me. This was too much! My pride was aroused. Had I not won a county council scholarship in my school days and graduated from a famous university in my adolescence? Am I not a member of a learned profession? Forthwith that evening I wrote to the firm which manufactures the pills and asked for a ruling on the matter.

The firm's reply was delicious and was balm to my soul. Whoever the gentleman is who was responsible for the reply, he has a sense of humour as well as a considerable measure of fellow-feeling for me. He wrote:

"We would like to offer you our sympathy in your verbal encounter with the 'bright young thing.' There is nothing more likely to arouse murderous thoughts in any man than to be corrected in his pronunciation. Moreover, in your own example, the exasperation will have been intensified by the fact that the rebuke was unjustified. Cholelith is pronounced ko-le-lith, and its derivation from the two Greek words χολή, meaning bile, and λίθος, a stone, indicates that it should not logically be pronounced in any other way. We trust that this information will give you the pleasure of tactfully confounding the disdainful lady and thereafter extending to her the toleration of the wise for the ill-informed."

Just so! I'm waiting now for the member of my family to finish her present bottleful of 100 pills.

I thanked the company very warmly and requested permission to send the correspondence to the *British Medical Journal*. The company's reply caused me still more amusement and gratification.

"We think it is our place to thank *you* for a very pleasant interlude in the humdrum of general business. The touch of humour in your first note prompted us to reply in a similar spirit, feeling sure that we would not be held to be too frivolous. As for achieving immortality in the august columns of the *British Medical Journal*, this is quite beyond our reach. The Editor of that dignified periodical would shudder at the suggestion that he should sacrifice his space on so unprofessional a matter. For us it is enough to know that humanity and humour can still enter into business relations. Please accept our sincere thanks for that."

While I would regret any ill effects resulting from the shuddering, I do think that the above correspondence can be considered sufficiently professional to allow it to see the light of day. Certainly I think some of our friends in the chemical world may learn something from it.—I am, etc.,

Sussex. CHARLES E. S. HARRIS.

*** Another problem is the pronunciation of the Greek kappa. Most medical men, we believe, give it a hard sound in words like encephelitis and encephelopathy. Yet the Shorter Oxford Dictionary would have the sound soft.—ED., *B.M.J.*

On Reverence for Authority

SIR,—Your editorial note to the letter of W. G. Kierans (Sept. 7, p. 343) on Reverence for Authority prompts me to relate what Prof. Schäfer (this was long before he became known as Sir E. Sharpey-Schafer) said at a meeting, the first I think, of the Physiological Society at Edinburgh University. He had been speaking about the teachings of Galen and how because of Galen's authority his teachings had been accepted almost without question for some thirteen or fourteen centuries. He then went on to say that the erroneous statements of great men had often hindered the progress of knowledge more than the other parts of their work had favoured it. These are almost the exact words used by the professor, for with them in my mind I have often during the last thirty years wished I had had the literary ability to write a book on the ill-effects of the "erroneous statements of great men" in the various branches of science. A "Short History of Error" would be a fine companion volume to *A Short History of Biology* (Singer).—I am, etc.,

London, S.W.18. G. POLLOCK.

Demobilized Service Medical Officers

SIR,—I would like to endorse most heartily Wing-Commander Stanley Turner's suggestion for a B.M.A. ex-Servicemen's Committee (Aug. 31, p. 312). Such a committee should have been in existence a long time ago and would have gone a long way towards making the ex-Service doctor feel that his case was well represented and put forward by people who understood his problem. I agree with the proposed constitution of the committee and would suggest that there should be six ex-Service members, two from each Service, and of these one to represent the specialists and the other the general practitioners.—I am, etc.,

ANDREW ZINOVIEFF,
Squad.-Ldr., R.A.F.V.R.

Obituary

On Aug. 26 Dr. THOMAS HOUGHTON MITCHELL died at his home in Ambleside, where he had practised for over half a century. Dr. Mitchell exemplified the best type of old-fashioned family doctor, beloved and trusted by very many as a faithful friend in the wide district in which he practised. He was born in Limerick in 1863, one of three brothers who all became doctors. He qualified as L.R.C.P.&S.Ed. in 1883 after completing his studies at Trinity College, Dublin, and took the M.D. degree at Durham in 1904. Entering Freemasonry in 1905 he gained many Masonic distinctions. Dr. G. Ainslie Johnston writes: After qualifying Dr. Mitchell spent two or three years holding hospital resident appointments at Inverness and Ayr and first came to Ambleside as locum tenent to the late Dr. H. Redmayne in 1887, when I had the pleasure of making his acquaintance, which led to a lifelong and very close friendship. Dr. Redmayne took him into partnership, and on Dr. Redmayne's retirement his brother-in-law, the late C. H. Hough, F.R.C.S., retiring from the senior surgeonship of the Derbyshire Royal Infirmary, became Dr. Mitchell's partner. Dr. Mitchell had a great sense of humour and was very widely read; he wrote a little and published "Ars medendi of Shakespeare," and engaged in his younger days in lawn tennis, golf, and bridge (especially the two latter) in his, often scanty, leisure time. He had a very wide circle of friends among the residents and the visitors who come to our Lake District, who will long remember him. He married in 1893 Miss Gertrude Pease of Darlington, who died in 1935, and lost his only son on active duty with the R.A.F. at the end of the first world war. He is survived by three daughters, one of whom, Mairin Mitchell, F.R.G.S., is a well-known writer on maritime subjects.

Dr. JOHN BARBOUR STEWART, consulting surgeon to the Glasgow Eye Infirmary, who died last month, was a member of the B.M.A. for nearly forty years until his retirement on grounds of ill-health at the end of 1944. He was born in Glasgow, son of John Stewart, and from Garnethill School entered the University of Glasgow, graduating M.B., Ch.B. in 1902. His early appointments were those of senior resident surgeon at the Glasgow Royal Infirmary and at the Eye Infirmary. During the war of 1914–18 he paid regular visits to the Gartshore Red Cross Auxiliary Hospital to attend eye cases. He had also been visiting ophthalmic surgeon to Belford Hospital, Fort William. Dr. Stewart was a member of the Ophthalmological Society of the United Kingdom and of the Glasgow Royal Philosophical Society.

Miss HELENA GERTRUDE JONES, M.B.Lond., D.P.H.Camb., died on Sept. 4 at Gilnockie, Treorchy. She was born in 1870 at Llanrwst, N. Wales, and studied at the Royal Free Hospital. She was one of the original Fabians in the days of Shaw and Wells and became one of the leading suffragettes. Mrs. Pankhurst regarded her as her best orator, and when any trouble was expected she was always sent to quell the disturbance. After four years as resident in Woolwich Infirmary she went to Yorkshire as school medical officer. She worked in Corsica during the first world war for the Serbian Relief Fund. In 1916 she came to the Rhondda, where she was assistant to the M.O.H. and was in charge of the maternity and child welfare clinic. She did excellent work and was regarded as one of the best authorities on child welfare. Always of a forceful nature, thoroughly honest and forthright, she did invaluable work in the disturbed Valley until her retirement in 1935. At the outbreak of war in 1939 she immediately offered her service to Dr. Fergus Armstrong at Treorchy, and worked with him until her death. In the "blitz" of 1941 she was the first doctor on the scene and worked incessantly for twenty-four hours. A nurse who accompanied her was killed with twenty-three people in one street, but although over 70 years of age she carried on her work nobly. Her memory will be cherished for all time in the Rhondda Valley.

With the death of Dr. A. C. TURNER on Sept. 5 the City of Leicester, and more particularly its school medical service, has sustained an exceedingly great loss. Though he had no children of his own, Dr. Turner devoted his life in the truest sense to the care of children. Innumerable children and their parents both in Leicester and in Rotherham, where he served for many years, owe him the deepest gratitude for his kindly and efficient ministrations. His connexion with the Leicester School Medical Service goes back as far as 1911, when he was appointed the first assistant school medical officer. There are many references in the annual reports of those far-off pioneer days to the value of his services. On the outbreak of war in 1914, Dr. Turner immediately joined the North Midland Field Ambulance and served throughout in France with great distinction, was wounded in action, was twice mentioned in dispatches, and was awarded the D.S.O. in recognition of his gallant service. It is characteristic of the man's humility that he kept the news of this distinction very much in the background. In 1922 he went to Rotherham as school medical officer, and remained there until 1935, when he returned to Leicester in charge of the school medical service there under the general direction of the medical officer of health. During the second world war he was the planner of the city casualty service, and his thoroughness, precision, and meticulous attention to detail made a most valuable contribution to the efficiency of the service. His selfless devotion to duty was most remarkable. During the last few months at his desk, in spite of increasing ill-health, he undertook the writing of a review of the service with which he was connected for so many years. His record of the Leicester School Medical Service from 1905–45 will long remain a classic example of what such reports should be. Such is a very inadequate review of his official life, but he was much more than an official. He gave an outstanding example of unselfish public service in war as in peace. He was a most reticent man, particularly with regard to his achievements, many and great though these were. He had a most lovable disposition, and his unexcelled stoicism during his long and final illness, so full of severe discomfort, was typical of his dogged determination to see all things through without a flinch. He met death as he met life, with a smile on his lips and calm confidence in his heart.

E. K. M.

Dr. EVELYN MARY HOWIE died at Newcastle-on-Tyne on Sept. 7. She was the first woman to receive her medical training at Newcastle-on-Tyne, and she qualified with the M.B.B.S.Durham, in 1902. The first ten years of her post-graduate life were happily and busily filled as a general practitioner's wife in Glasgow. Not only was she occupied with her three children, and all the duties that fall to a G.P.'s wife, but she greatly assisted her husband in his medical work, and there developed her lifelong interest in the care of young children. She was widowed in 1912, and then began the hard part of her life. Hers was only a frail constitution, and she was left no better provided for than is the average doctor's widow. Yet she succeeded conspicuously in both her private and medical life. She was able to maintain a home for her children and to give them a first-class school and professional education, so that now one is a doctor, another a solicitor, and the third a chartered accountant. In her professional life she was engaged in maternity and child welfare, and in 1920 was appointed maternity and child welfare medical officer to Durham County, a post which she held for 17 years until her retirement in 1937. These were the formative years of child welfare, and much that is now standard practice all over the country was influenced by her work. In 1928 she was elected to the Council of the Medical Women's Federation. No doubt the hardships of her own life gave her an added insight into the problems of a working-class mother's life, which earned for her so much affection from the people for whom she worked.

By the death of HAMILTON G. LANGWILL, Leith and the surrounding district has lost a much respected and highly efficient general practitioner, who had been in practice for the last 45 years. He graduated M.B., C.M. in 1889, M.D. in 1898, and received the diploma of F.R.C.P.Ed. in 1896. After graduation, he served as house-physician in the Simpson Memorial Hospital, and in the Sick Children's Hospital, Edinburgh. After that experience he started work in Leith and was appointed physician to Leith Hospital. During the 1914–18 war he served as captain, R.A.M.C., in the 2nd Scottish General Hospital. He was also lecturer at Leith Nautical College. J. J. W. writes: He and I graduated in the same year, and kept up our friendship and association to the end of his life. He was a most energetic and likable man, kind and thoughtful, and never spared himself in assisting his friends and patients in their troubles. In addition to his professional work he had many interests, as he was well informed in general literature, and was a deep admirer of the works of Robert Louis Stevenson. His musical knowledge was very wide, and he was a regular attendant at all the most important concerts in Edinburgh and enabled many of his friends to share his pleasure by giving them tickets of admission. Perhaps his most outstanding interest was his knowledge of the beauties of churches and cathedrals of Scotland and England which he visited during his holidays, and from which he came home with numerous photographs and apt

descriptions of all that he had seen. I know he will be much missed by all his patients and personal friends in Leith and Edinburgh, but especially by his married daughter. Fortunately he had a very short illness, and worked practically to the last, which I know he would have wished.

We regret to announce the death on Sept. 8 at Crowborough of Lieut.-Col. ASHTON STREET, I.M.S. (ret.), who was for a succession of years a popular member of the Dominions Committee of the B.M.A. and of the Central Council. Born in 1864, he began the study of medicine at Downing College, Cambridge, and afterwards took his clinical course at Leeds. He qualified as M.R.C.S. in 1885 and four years later obtained the M.B. degree at Cambridge and the F.R.C.S. diploma. His first appointment before joining the I.M.S. was that of house surgeon at the Leeds General Infirmary. During his service in India he was surgeon to and professor of anatomy at the J.J. Hospital, Bombay, and later principal and professor of surgery at the Grant Medical College. Col. Street was elected to the Council of the B.M.A. in 1927 and on three occasions acted as a representative at Annual Meetings. He married the daughter of Herbert Davies, M.D., senior physician to the London Hospital, and leaves two daughters.

A. TUDOR EDWARDS, F.R.C.S.

At a memorial service held in London on Sept. 12, Lord HORDER gave the following address:

With spirits still benumbed by sorrow it is not easy to speak about one who, until two weeks ago, was so much with us as was Arthur Tudor Edwards. Certainly to speak perfunctoriiy of anyone so vital as he was is not possible. It is only when we broaden the theme and deepen its perspective that we can say anything that begins to express what is in all our minds. And so, in speaking of Tudor Edwards to-day, if I speak for Medicine my task becomes simpler, and at the same time my approach to it becomes more fitting.

In addresses like this of mine a distinction is often made between the man and his work. In the case of our friend and colleague the distinction is even less justified than with many other men. For to a very notable degree the man was his work and the work was the man. As we watched his whole personality infuse itself into his pioneering labours the single heart held us all to ransom. This terrific concentration of the spirit was the impelling force which enabled Tudor Edwards to break down the barriers that tradition had set against the entry of the surgeon into the as yet unexplored field of chest diseases. He made the entry; he followed it by a series of triumphant achievements; and he proved convincingly that others could do as he had done. But they must show the same courage, the same care and—as many of his pupils must have thought it—the same painful thoroughness. Such care, such thoroughness left in the case of Tudor Edwards no time nor place—as there was indeed no inclination—for showmanship. And yet the whole world was watching, was repeating, was testing his results, to find them valid and of tremendous service to humanity.

Recognition of Tudor Edwards' work was to be in terms of quality, not quantity. International leaders in his field of action realized that they had a peer, and this was the kind of distinction he liked best. Invitations to go here and to go there were honourable but they were embarrassing. The claims of Brompton, The London, Midhurst, Millbank, and Roehampton, doubled as they were by the war casualties, remained paramount. These were the places to which Tudor Edwards was adding fresh lustre. And to these many obligations he added those entailed by being adviser to the Ministry of Health, consultant to the R.A.F., and a member of the Council of the Royal College of Surgeons.

Seven years ago came the first warning that the physical and mental strain, if pursued, might exact the fullest payment. So great was the impelling force of the man's technical genius that, were it not for the agonizing fear of separation from his beloved helpmate, I do not think a choice really existed for him. There was certainly no drama: posturing had no attraction for Tudor Edwards. The situation was dominated by the lure of scientific and beneficent achievement. Let us not ignore the lesson. This man was absorbed in the single-hearted, single-minded mastery of his craft. All else was secondary. Let us never forget and never lightly sacrifice this essential ingredient in the character of the true healer. Society, in its best interest, must harness all that it can summon of this force to the plough of medicine. To bring Nature under control in respect of her hidden secrets is the way the pioneer serves his fellows. To-day it is the conquest of the microbe; to-morrow it is the successful pitting of the surgeon's craft against the cunning concealment of vital organs. It was to this battle that Tudor Edwards gave his life. He will remain for all who knew him a profoundly satisfactory personality and a surgeon of flawless technique. Commentators say that Tudor Edwards was handsome. How true, but the word is inadequate if we apply it only to his bodily features. He was beautiful in the work of his hands and he was handsome in his mind. In his being there was no meagre expression of compensation. It was as though Nature said at his birth: see what I can do when I have no inhibitions and hold back no reserves. Tudor Edwards died in his prime, without a grey hair on his body or in his mind. He has left two precious legacies: to those who knew him a joyous memory; to the world a new chapter in the liberation of mankind from pain and suffering.

Universities and Colleges

UNIVERSITY OF GLASGOW

Dr. Thomas Anderson, F.R.C.P.Ed., physician-superintendent of the Knightswood Hospital, has been appointed full-time lecturer in infectious diseases in the University of Glasgow from Oct. 1. During the past year a joint committee formed by the University and the Corporation of Glasgow has been discussing such a project. It was felt that as the Public Health Department of the Corporation was responsible for the care of patients with infectious diseases, and the University was anxious to ensure the adequate teaching of this subject, joint responsibility was desirable. The new appointment is a University one, however, and the lectureship is independent of the Corporation. The belief behind the conception is that there is an increasing need for continued study of the management and prevention of infectious diseases. The preoccupation of those in charge of fever hospitals with the day-to-day administration thereof tends to make a serious demand upon their time as clinicians. The new position will free Dr. Anderson from this side of the work and allow him to devote his full time to the clinical aspects of the subject. In order that he may have adequate clinical material both for teaching and for investigation the appointment carries with it the title of visiting physician to Knightswood Hospital, and he will have full clinical responsibility for the treatment of the patients there; he will in addition be consultant in infectious diseases to Glasgow Corporation. Dr. Anderson's successor as superintendent of the hospital is to be appointed.

ROYAL COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS

At a special meeting of the Council on Sept. 27 the Honorary Fellowship of the College will be conferred on Mr. Victor Bonney in recognition of his eminent services to British gynaecology.

The Services

Surg. Rear-Admiral C. E. Greeson, C.B., has been appointed an Honorary Physician to the King in succession to Surg. Rear-Admiral F. J. D. Twigg, C.B.E., who has been placed on the Retired List.

The following appointments and mentions in dispatches have been announced in recognition of gallant and distinguished services while prisoners of war:

M.B.E. (*Military Division*).—Major (acting) T. M. Pemberton and Capt. W. H. McDonald, R.A.M.C.

Mentioned in Dispatches.—Lieut.-Col. St. C. E. J. Barrett, Lieut.-Cols. (Temp.) H. C. Benson, W. G. Harvey, E. M. Hennessy, O.B.E., J. Huston, J. W. Malcolm, O.B.E., M.C., and J. H. Strahan; Major E. A. Smyth; Majors (Temp.) F. E. Anderson, V. Bennett, and W. J. E. Phillips; Majors (Acting) R. C. Burgess and F. L. Webster; Capts. F. E. Butterfield, P. T. Chopping, D. Christison, M. H. Churchill, T. R. S. Cormack, E. K. Cruickshank, F. L. K. Daniels, J. Diver, J. R. Gibbs, C. Hecht, J. K. Hewat, B. Lennox, C. V. Lewis, P. MacArthur, J. McQuillan, E. R. S. Phillips, and C. S. Pitt, R.A.M.C.

CASUALTIES IN THE MEDICAL SERVICES

Killed in accident to air-ambulance.—Surg.-Cmdr. William Tudor Gwynne-Jones, R.N.

The *Annals of Tropical Medicine and Parasitology*, 1945, 39, Nos. 3 and 4, a special number issued as a memorial to Prof. Warrington Yorke, F.R.S., is now available in the B.M.A. Library. It contains a series of papers describing the investigations into certain new antimalarial drugs culminating in the discovery of paludrine. (An article entitled "Paludrine in the Treatment of Malaria," by B. G. Maegraith and colleagues in the Liverpool School of Tropical Medicine, appeared in the *Journal* of June 15, 1946, p. 903.)

No. 35

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Aug. 31.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1946					1945 (Corresponding Week)				
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	41	5	23	1	1	33	3	21	2	1
Deaths		—	—				—	—		
Diphtheria	262	26	92	31	15	377	18	144	97	15
Deaths	5	—	1	1	—	2	1	—	—	—
Dysentery	74	14	45	—	—	286	41	114	3	—
Deaths				—	—				1	—
Encephalitis lethargica, acute	—	—	—	—	—	3	1	—	1	—
Deaths		—					—			
Erysipelas			36	10	—			40	13	1
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				65					137	
Deaths	31	5	8	14	2	76	10	13	19	15
Measles*	1,565	125	73	28	4	851	48	56	28	2
Deaths	2	—	—	—	—	2	—	—	—	—
Ophthalmia neonatorum	98	7	8	—	—	59	4	11	—	1
Deaths										
Paratyphoid fever	44	2	81 (B)	—	4 (B)	13	—	5 (B)	—	—
Deaths	1	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal	279	11	5	1	1	265	9	5	4	—
Deaths (from influenza)†	6	—	—	—	—	8	1	—	1	—
Pneumonia, primary			104	19				121	9	
Deaths		18		9	3		17		5	3
Polio-encephalitis, acute	4	1				3	—			
Deaths		—					—			
Poliomyelitis, acute	21	—	—	4	3	28	2	—	3	—
Deaths		—					—			
Puerperal fever		3	15		—		3	20		—
Deaths										
Puerperal pyrexia‡	131	9	10	1	1	142	12	12	3	—
Deaths		—					1			
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	744	62	136	30	22	1,020	63	237	21	30
Deaths	—	—	—	—	—	—	—	—	—	—
Smallpox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	27	4	3	—	2	9	1	2	1	5
Deaths	—	—	—	—	—	1	—	—	—	1
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough*	1,976	124	91	38	27	1,244	73	52	42	10
Deaths	9	—	—	2	3	4	—	—	—	1
Deaths (0–1 year)	318	34	46	28	12	341	44	44	28	26
Infant mortality rate (per 1,000 live births)										
Deaths (excluding still-births)	3,712	567	520	172	94	3,869	543	477	153	98
Anual death rate (per 1,000 persons living)			11·4	11·0				10·8	9·9	
Live births	8,699	1311	979	386	268	6,479	796	828	485	240
Annual rate per 1,000 persons living			19·7	24·7				16·6	31·3	
Stillbirths	277	40	34			219	25	23		
Rate per 1,000 total births (including stillborn)			34					27		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

‡ Includes puerperal fever for England and Wales and Eire.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* 79 more cases of scarlet fever were notified. Apart from the administrative areas of Southampton and Durham (each with 10 fewer cases) the increased incidence was fairly evenly distributed throughout the country.

Measles, whooping-cough, and diphtheria were responsible for 575, 82, and 23 fewer cases respectively. The decline in typhoid cases was maintained for the third week in succession, 27 cases (9 less than last week) being reported. A decrease of 22 cases of paratyphoid also occurred, the total falling to 44.

The decline in measles was consistent in the northern counties, but small increases were noted in a few midland and southern areas. The greatest decrease, of 87 cases, occurred in Essex. Whooping-cough notifications varied considerably from the regional aspect, for, although decreases of 46, 30, and 26 were reported from London, Sussex, and Kent respectively, increases of 70 occurred in Lancashire and 33 in Derbyshire.

In *Scotland* 81 cases of paratyphoid B were reported. This represented an increase of 74, of which as many as 65 were due to increased notifications from Coatbridge in Lanarkshire. Four new cases also occurred in Renfrewshire and 3 in Airdrie. In addition to 3 cases of paratyphoid at Glasgow (one more than last week) 2 of the 3 new typhoid cases notified for Scotland occurred in that borough. Whooping-cough, diphtheria, measles, and scarlet fever were responsible for 50, 15, 13, and 8 more notifications.

In *Eire* diarrhoea and enteritis again showed an increased incidence, 65 cases being reported—an increase of 41—of which 55 cases were notified for Dublin, compared with the previous week's figure of 19. Increases were also evident in the notifications of whooping-cough, scarlet fever, and measles, but there were no fresh cases of typhoid.

Quarterly Returns for Scotland

During the quarter ending June, 1946, the births were equivalent to a rate of 20.2 per 1,000, being 1.3 greater than the average rate for the corresponding quarter in the preceding five years. (The average, so calculated, is used as a standard of comparison throughout this note.) Infant mortality, with a rate of 47 per 1,000 live births, was 17 below the average. The deaths from all causes were equivalent to a rate of 12.2 per 1,000 population—1.4 less than the average.

Respiratory tuberculosis caused a death rate of 64 per 100,000, and all forms of this disease resulted in a rate of 82 per 100,000 (the average figures were 63 and 87 respectively). Actual deaths from the main epidemic diseases were: cerebrospinal fever 26, whooping-cough 19, diphtheria 16, and measles 39.

Week Ending September 7

The notifications of infectious diseases in England and Wales during the week included: scarlet fever 668, whooping-cough 1,824, diphtheria 284, measles 1,321, acute pneumonia 292, cerebrospinal fever 33, dysentery 86, acute poliomyelitis 19, paratyphoid 42, and typhoid 21.

Medical News

The annual dinner of the Middlesex Hospital Medical School will be held at the Savoy Hotel (Embankment entrance) on Friday, Oct. 4, at 7 for 7.30 p.m.

The St. Thomas' Hospital old students' dinner will take place at Claridge's Hotel, Brook Street, W., on Nov. 1, at 6.45 p.m. for 7.30 p.m., with Sir Maurice Cassidy, K.C.V.O., M.D., in the chair. Rationing restrictions limit the number of places to 250. Applications from old St. Thomas' students should be made to the honorary secretaries, Old Students' Dinner, St. Thomas' Hospital, London, S.E.1.

The next meeting of the Whipps Cross Hospital Medical Society will be held on Thursday, Oct. 3, when Dr. John Shone of the North London Blood Supply Depot will lecture on blood transfusion and the general practitioner. The honorary secretary of the society is Dr. W. W. Walther, Whipps Cross Hospital, London, E.11.

The 252nd meeting of the Biochemical Society will be held in the Department of Biochemistry, the University, Liverpool, on Friday, Sept. 27, at 11 a.m., when papers will be read.

At the Welsh National School of Medicine, Cardiff, the opening address for the new session will be given by Sir Wilson Jameson, Chief Medical Officer to the Ministry of Health, in the Institute of Physiology, Newport Road, Cardiff, on Friday, Oct. 4.

The International Society of Medical Hydrology will hold its first post-war meeting at Buxton on Friday, Saturday, and Sunday, Oct. 4, 5, and 6. The train leaves St. Pancras at 11 a.m. on Friday, and there is a general meeting of members at 5 p.m. On Saturday at 9 a.m. Dr. Van Breemen will read a paper on the four causal factors of rheumatic disease in connexion with medical hydrology, followed by a demonstration of cases at the Royal Devonshire Hospital, and a visit to the spa; at 5.30 p.m. Mr. R. Whittington will read a paper on plasma viscosity. The programme for Sunday, beginning at 9.30 a.m., includes papers by Dr. Victor Ott on present Swiss concepts of rheumatism and physical medicine, by Dr. Abraham Cohen on the use of physostigmine in rheumatoid arthritis, and by Dr. Louis T. Swaim on American concepts on arthritis. Applications for attendance and for accommodation should be made to Dr. Donald Wilson, 28, The Circus, Bath. The fee for non-members at the meeting is 10s., exclusive of accommodation.

A conference of the Nutrition Society is being held to-day (Saturday, Sept. 21), beginning at 10.30 a.m., at the London School of Hygiene and Tropical Medicine, Keppel Street, W.C. This precedes a general business meeting at 2.30 p.m. The provisional programme and time-table are as follows: "The work and aims of the Food and Agriculture Organization." Papers by Sir John Orr, Director-General of F.A.O.; Mr. D. Lubbock "Nutritional Aspects of the World Food Picture"; Dr. P. Lamartine Yates "The Development of Food Supplies"; Dr. W. R. Aykroyd "The Nutritional Programme of F.A.O."; Miss E. Fautz "World Needs for Processed Milk." Non-members are only admitted to meetings by the introduction of a member. Further details of the Nutrition Society can be had from the hon. secretary, Dr. Leslie J. Harris, Nutritional Laboratory, Milton Road, Cambridge.

The Royal Photographic Society's 91st annual exhibition of photography was opened by Sir Henry Dale on Sept. 14, and will be on view from 3 to 6 p.m. until Saturday, Oct. 26, at the Science Museum, Exhibition Road, London, S.W. It contains nearly 900 photographs, and entries were received from 21 countries. There are prints showing the photographic method in nuclear research. Other prints illustrate such diverse subjects as sound recording on glass disks, the effect of electron bombardment, the formation of shell on an egg inside the hen shown by radiography, the making of a denture, diseases of plants, photographs of molecules (taken by the *x*-ray diffraction method of Sir Lawrence Bragg), a paraffin spray taken at 1/10,000 second, antenatal skiagram of Siamese twins, colour photographs and transparencies of medical and surgical subjects, and many beautiful natural history prints. The kinematographic section contains 46 films on scientific, technical, commercial, and instructional subjects.

The Board of Directors of the famous Scottish institution known as Crichton Royal have established three Fellowships for the training of specialists in psychiatry, each carrying a salary of £400 a year, plus the usual residential emoluments. The Fellowships are in addition to the ordinary staff of the hospital; they will be tenable for one year, starting from Feb. 1 next, but may be prolonged for another year. Previous general hospital experience is essential. The Fellows will receive training in all branches of clinical psychiatry (including work in out-patients and child guidance clinics) by the senior members of the medical staff. These Fellowships will help the introduction of a higher and fuller training in psychiatry as encouraged in the recommendation of the Royal College of Physicians. Application forms and syllabus can be had from the Physician-Superintendent, Crichton Royal, Dumfries, and should be returned by Dec. 16.

Thirty members of the medical delegation from Belgian universities now visiting this country were welcomed in London on Sept. 9 by Sir Ronald Adam, chairman of the British Council. The reception was held at 74, Brook Street, and among those who met the medical representatives from Brussels, Ghent, Liége, and Louvain were the Belgian Ambassador, Lord Moran, P.R.C.P., Sir Gordon Gordon-Taylor, and Lord Amulree, representing the Ministry of Health. The delegation was led by Prof. J. J. P. Bouckaert of Ghent, deputizing for Prof. J. P. Hoet of Louvain.

The National Ophthalmic Treatment Board announces that Dr. Alfred Cox is resigning his position as Acting Secretary of the Board as from Sept. 30, and that Miss M. H. Atkins has been appointed Secretary to the Board. Dr. Charles Hill will continue as Medical Secretary, the post formerly held by the late Dr. G. C. Anderson.

Dr. G. Candler-Hope, who has been medical officer of health for the Scarborough Rural District for 51 years, is retiring at the end of this month. Dr. Candler-Hope graduated in medicine at Edinburgh in 1891 and joined the B.M.A. in 1900. He served as a member of the Representative Body for 20 years in all between 1920 and 1943; he was also a member of the Distribution Committee and of the Rural Practitioners Subcommittee for a long period.

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology, Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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ANY QUESTIONS?

Blood Sedimentation Rate

Q.—*Can an active tuberculous or rheumatic infection exist in a patient whose sedimentation rate is normal for age and sex? Does the amount of sodium salicylate in the blood affect the sedimentation rate? Is there any value in taking readings after both one and two hours (Westergren)?*

A.—It is impossible to deal with this question completely in a brief answer. A useful symposium of several authoritative articles on various aspects of the blood sedimentation rate test will be found in *The Practitioner* (July, 1946). These articles include useful bibliographies.

While in the active phases of tuberculosis and acute rheumatism the sedimentation rate is usually increased and the degree of this increase is roughly parallel to the activity of the disease, cases are occasionally met in both these infections in which in spite of obviously active lesions the sedimentation rate is within normal limits. This is especially true of tuberculous lesions of minimal extent, where it has been shown that the sedimentation rate when patients first come under observation is quite unreliable as a guide to the probable course of the disease. In both tuberculosis and rheumatism the sedimentation test finds its greatest value in serial observations, when variations in the rate in the same subject are of undoubted significance and form a useful addition to other data in assessing progress. No definite information is available about the effect of sodium salicylate on the sedimentation rate, but it seems likely that if there were any such effect it would have come to light, since the test has been used extensively in cases of acute rheumatism in which salicylates are often given over long periods.

With regard to the value of observations after one and two hours by the Westergren method, for clinical purposes the reading at one hour is adequate, and little further information of value is likely to be obtained from reading after two hours. Sedimentation of red cells occurs in three phases: an initial phase in which the red cells are agglutinating and in which the rate of sedimentation is gradually increasing; then a phase of sedimentation at a fairly constant rate after the process of agglutination is completed; and finally a phase of gradually slower sedimentation as the red cells pack at the bottom of the tube. In the Westergren method, with its 200-mm. tube-length, the reading at one hour will include the first phase, but in all except the most rapidly sedimenting bloods the whole of the rest of the first hour will fall into the phase of constant sedimentation. The second hour will include a variable proportion of the phase during which sedimentation is slowing because of packing of red cells. Methods using a 100-mm. tube and a reading at one hour will lead to the inclusion within the time covered by the reading not only of the whole of the first two but also of part of the third phase with rapidly sedimenting bloods. Various methods have been devised to measure the steady sedimentation rate during the second phase which on theoretical grounds would present several advantages, but for clinical purposes the test cannot be interpreted with sufficient accuracy to justify the added complication introduced by these methods.

The test is not specific; the rate of sedimentation depends not only upon the balance of the protein and certain other

constituents of the blood but also upon the concentration and shape of the red cells, and the first of these can be disturbed by a great variety of factors. In view of the non-specificity of the test it seems preferable for the clinician to allow for any anaemia that may be present in his interpretation of its result in relation to the total clinical picture, rather than to attempt to remove the effect of one among many variables by a correction for anaemia. Hence a simple reading after one hour with the Westergren technique conveys sufficient information for all except special investigational purposes.

Treatment of Chronic Sinusitis

Q.—*A woman aged 48 had her antra of Highmore drained for double sinusitis fifteen years ago. The right antrum frequently becomes inflamed, causing intense pain which is only relieved after a profuse muco-purulent discharge from the right nostril. These acute attacks have recurred every few weeks for several years. Staph. aureus is the chief organism present. Surgical measures are declined. Is penicillin indicated?*

A.—It is unlikely that penicillin would cure this patient even if the organism were sensitive to penicillin, as the infection is chronic, with formation of fibrous tissue and osteitis, where the penicillin would not penetrate. Proper drainage and removal of infected bone in the capsule of the sinus is indicated.

Intestinal Worms Stained with Iron

Q.—*An infant under treatment with iron ammonium citrate passed black thread-worms. It was presumed that the worms were made black by feeding on the iron. Was this observation true?*

A.—The cuticle of living helminths, in contrast to that of dead helminths, usually resists staining by substances other than vital stains. The blackening of the faeces in persons taking iron ammonium citrate is presumably due to the formation of ferrous sulphide, which, if taken into the gut of the living worm, would be visible through the transparent cuticle.

D.D.T. for Head Lice

Q.—*Is D.D.T. efficacious and safe to use on a verminous head? How should it be applied?*

A.—D.D.T. can be used in the form of a 2% emulsion against head lice. (See the article by E. B. S. Scobbie in *British Medical Journal*, 1945, **1**, 409.) It is fairly certain that one or two such treatments would be harmless, but the effects of repeated applications are not known. We understand that experiments are now in progress to ascertain the effectiveness of D.D.T. aqueous suspensions for this purpose. Such preparations would clearly be safer than emulsions owing to the absence of any solvent for the D.D.T.

Effects of Penicillin Lozenges

Q.—*Penicillin lozenges are in common use, yet the American "Digest of Treatment" states that 18% of cases using them develop glossitis and stomatitis. Their use for infections of the oral cavity is considered inadvisable. What is your opinion?*

A.—It is impossible to trace the American *Digest of Treatment* anywhere here. It cannot therefore be discovered on what kind of information the statement is based that 18% of cases using penicillin lozenges for the treatment of infections of the oral cavity develop glossitis and stomatitis.

It is impossible to obtain exact figures for the use of penicillin lozenges in oral infections in this country, but many cases have been treated in this manner, and only four cases of glossitis have so far been reported—two by P. D. Bedford, *British Medical Journal*, 1946, **2**, 63, and one by P. Ellinger and F. M. Shattock, *British Medical Journal*, 1946, **2**, 208. This demonstrates that the incidence of glossitis following oral penicillin treatment is very rare. There is no permanent damage to the tongue, and the glossitis disappears after discontinuing the treatment. In the one case investigated more thoroughly a nicotinamide deficiency was observed which was probably due to an effect of penicillin on the production of nicotinamide by the intestinal flora. It was the main cause of the glossitis, which could be relieved by parenteral administration of nicotinamide. Considering the great therapeutic value of local penicillin treatment of oral infections, and the very rare incidence and the complete and speedy reversibility of the glossitis, unpleasant as it might be for the few people who acquire it, there is no indication against the use of penicillin for the treatment of oral infections. One should, however, watch the condition of the tongue and look for other signs of nicotinamide deficiency during treatment, which should be discontinued and nicotinamide given parenterally if such signs develop.

Erythematous Patches on Legs

Q.—*A woman aged 39 complained in 1941 of pain in the right groin; temperature 103° F. (39.4° C.). Nothing could be found on examination. Her temperature fell on the second day, and there appeared on the right leg a large erythematous patch which took 1–2 weeks to disappear, leaving a large area of scaling. This type of attack has occurred five times—four on right leg, one on left. Between the attacks she is well. I should have diagnosed erythema nodosum but for the recurrences. What is your opinion?*

A.—Erythema nodosum is often recurrent, but the history does not suggest that diagnosis. The condition is almost invariably bilateral, and is not preceded by glandular symptoms or temperature (though temperature often accompanies the onset). The colours characteristic of erythema nodosum are not described and the scaling does not seem compatible with that diagnosis.

The probable diagnosis is a recurrent phlebitis or recurrent lymphangitis, organisms possibly gaining entrance through some minute abrasion about or between the toes. It is important to exclude ringworm infection between the toes. Treatment should be according to the findings.

Intestinal Enzymes for Arthritis

Q.—*It is suggested that enteric-coated capsules of erepsin-type enzymes may have a beneficial effect on rheumatoid and other types of arthritis. Has this treatment any rationale?*

A.—Claims made by the originator of the treatment of rheumatic diseases by a preparation of intestinal enzymes have not been confirmed by others. The writer believes that the remedy has some influence upon digestion and assimilation; and he has noted an improvement in general health and therefore improved powers of resistance in some of the patients, while in others no effect could be observed. That the remedy is by no means inactive is shown by the marked fall in the blood sugar which sometimes occurs under the treatment as well as other less obvious effects, and this would indicate the desirability of further observations. It may throw some light on many little-understood features in the pathology of rheumatoid arthritis in particular.

Stammering in a Young Child

Q.—*A child aged 2 years 9 months is beginning to talk and shows signs of a stammer. Can you tell me what treatment is indicated, if any?*

A.—At this stage it is not uncommon for an intelligent child to develop a temporary stammer because his flow of ideas is outrunning his verbal facility. In such a case one can safely ignore the symptom so far as direct treatment is concerned, but it is useful to adopt certain measures to decrease its duration and to prevent habit formation. These include speaking to the child slowly and distinctly, with economy of words and simplicity of phrasing, since the stammer may well be an unsuccessful attempt to imitate the rapid and complicated speech of adults too early. It is also advisable to provide plenty of other means of expression, especially in play, with simple construction material and the large toys that give a satisfying sense of power to small children. Songs are sometimes a help in combining words with rhythm.

A developmental stammer is usually of the repetitive kind, without any marked hold-up in breathing. The type that involves spasmodic working of the throat muscles followed by explosive speech should, if at all persistent, be referred to a speech therapist, as should cases with a family history of marked stammering

INCOME TAX

Child Allowance

W. O.'s son, aged 21 years, is taking a degree course at a university. He receives a Government grant conditional on W. O. contributing £10 a month towards his maintenance. Can W. O. claim the child allowance?

*** Yes.

New Partnership

"ALPHA" has acquired a share in a partnership as from April 1, 1946, but the outgoing partner retains certain appointments to the value of £300 per annum. A new bank account has been opened as from April 1. Alpha did not buy a share in the previous book debts. How should his liability for the year to April 5, 1947, be calculated? He also asks whether purchase tax is deductible for income tax purposes.

*** It is assumed that the new firm will be regarded as a continuation of the old one, and that the firm's yearly accounts will be made up as at the usual date—i.e., Dec. 31. The new firm will be assessed under Schedule D in the ordinary course for 1946–47 (presumably on the basis of the profits for the year to Dec. 31, 1945), excluding the £300 which is assessable under Schedule E, and Alpha will be liable to account to the firm for his share, for twelve months, of that charge. In so far as an expense is allowable for income tax as being incurred in carrying on the professional work, the full amount as increased by the purchase tax is allowable. The question does not, of course, arise in respect of non-professional expenditure.

LETTERS, NOTES, ETC.

Civilian Employment for R.N. Sick Berth Staff

Surgeon Captain MONTAGUE H. KNAPP, R.N. (Retd.), writes: The Central Council, Royal Naval Sick Berth Staff Association, composed of Naval medical officers, was founded in 1933, the principal object being to advertise, by various means, the little-known fact that men of the Royal Naval sick berth staff are fully trained and experienced male nurses, who on return to civil life, after 12 or 22 years' service in hospitals and ships in the Royal Navy, are available for and desire civil employment. During the passing of the Nurses' Act, 1943, at the instigation of the Council, the position of these men was constantly brought forward by our Patron, the late Admiral Lord Keyes, and other Naval and medical members of both Houses, with the result that the original suggestions of the Council made to the Ministry of Health were conceded, viz: (a) Reopening of the List for registration, as "State Registered Nurses" for those qualified to register up to 1925, which, owing to the matter not being adequately promulgated to those abroad, many had failed to do. (b) That sick berth ratings with certain qualifications as to service, etc., were to be recognized as "Service Trained Male Nurses," and registered as such. Unfortunately, owing to death, ill-health, and age, none of the original founders, or officers of the Council, are now available to carry on the work, and medical officers, R.N. and R.N.V.R., active or retired, are urgently required to fill the vacant offices, and I wish to appeal to all who are interested and willing to help to communicate with me, c/o Medical Department, Admiralty, 64, St. James's Street, London, S.W.1.

Facial Palsy Accompanying Acute Mastoiditis

Dr. K. R. OGILVIE writes: Please allow me to make a small correction in my article published on Aug. 24 (p. 263). The first line of the description of Case 4 should read "Mr. A., aged 36, attended his practitioner," instead of "attended hospital." I would also like to add that one of my objects in publishing the report was to warn practitioners of this pitfall and to point out one of its presenting symptoms, persistent slight deafness.

Pethidine as a Drug of Addiction

Dr. A. HARBOUR (London, S.W.1) writes: It may not be generally known that pethidine may cause addiction in as serious a degree as the more common drugs associated with this condition. A case seen by me lately brings this out clearly. The patient, a man of colour, was under my care for some 36 hours while being held by the police on a charge unconnected with his addiction. He had been a heroin addict but had been cured by the substitution of pethidine and no longer took the former drug except on rare occasions. On the other hand he needed three injections a day of 400 mg. of pethidine to keep under control. Deprived even for a very short time of his drug he behaved in the normal way of an addict deprived of his "shot." Two points arise from this case. First, that physicians who relieve an addiction to one of the common drugs by substituting pethidine run the risk of a mere alteration of the addiction and a continuance of the misery and vice that goes with such a condition; and secondly, that the present position relating to the supply of pethidine whereby an addict can have a prescription repeated *ad lib.* or can obtain the drug without a prescription on signing the poison book at a chemist is unsatisfactory.

*** We understand that pethidine has been recommended for insertion in Schedule I but is not yet legally included, although pharmacists by common consent now act as if it were on Schedule I.

Experimental Helminthic Infection

Mr. E. L. TAYLOR writes from the Veterinary Laboratory, Ministry of Agriculture, Weybridge: May I call attention to inaccuracies in a reply to a question on experimental helminthic infection which appeared in the *Journal* of Aug. 31. The writer of the answer appears to be unaware of the highly specific nature of the host requirements of most helminths. Although some members of the genus *Taenia* occur in rabbits, in their larval stages only, *Taenia solium* cannot infect that host at any stage in its life history. If your correspondent wishes to infect rabbits with adult tapeworms he must interest himself in members of the genus *Cittotaenia*, the larval stage of which is spent in the body cavity of certain species of free-living mites. Nor can an infection with *Enterobius vermicularis* be maintained in rabbits. These animals do, however, become infected with more or less closely allied species that may have some value for the purpose of testing substances thought to possess anthelmintic activity against *Enterobius*. The demonstration of the anthelmintic activity of a substance against these allied species of worms would not of necessity indicate any action against *T. solium* and *E. vermicularis* but would be indicative of the need for specific trials on those two parasites themselves.

*** We are informed that the experimental infection of rabbits with *Taenia solium* and with *Enterobius vermicularis* for which a technique was asked by a correspondent is unlikely to prove successful because neither of the parasites occurs naturally in their hosts, nor have previous experimental efforts proved positive. *Taenia solium* has become exceedingly rare not only in this country but elsewhere in Europe. It is, however, fairly common in Cyprus and in South Africa, while the occurrence of cerebral cysticercosis in troops who have been stationed in India indicates that it is not uncommon there. Rats and mice harbour several species of oxyurids which could be used for experimental purposes more readily than *Enterobius vermicularis*, while there are several species of *Taenia*, closely related to *Taenia solium*, in dogs and cats available for experimental study.

Rash After Penicillin Lozenges

Dr. D. P. WHEATLEY (Watford) writes: Reactions to penicillin are rare; and a reaction to penicillin lozenges has not, so far as I know, been previously reported. The following case, therefore, may be of interest. A girl aged 22 came to me with a sore throat. On examination her tonsils were only slightly inflamed, and she was sent to bed with a box of penicillin lozenges with instructions to suck one two-hourly. I was called to see her again in a few days' time because she had been unable to continue with the lozenges, owing to a rash which appeared on her cheeks and upper part of her chest each time she sucked one. This appeared about 20 minutes after a lozenge, and was accompanied by a hot, tingling sensation of the affected skin. The rash was red and blotchy, somewhat resembling that of chicken pox. It was irritable and faded within 20 minutes. An interesting point was that the girl had on a previous occasion sucked gelatine penicillin pastilles with no ill-effect. The rash was presumed to be an allergic reaction, probably due to an impurity in the lozenges.

Journals and Textbooks Wanted

Dr. A. TUDOR HART writes from the Ministry of Pensions Hospital, Dunston Hill, Gateshead, 1: The International Brigade Association has received urgent requests from former medical officers of the I.B. Medical Service in the Spanish War, now at last working once more in their own countries, for current issues of medical journals. Would some of your subscribers be willing to forward their *British Medical Journal* regularly for a year? If so, will they please write to the secretary, International Brigade Association, 14, Red Lion Square, London, W.C.1, who will let them have a name and address. We have other former colleagues still working in China, to whom we should especially like to forward recent and expensive surgical textbooks. May we also appeal for some donations for this object? They should be sent to the same address, marked "Medical Textbook Fund."

Apology

Mr. GEORGE BANKOFF writes: I very much regret that owing to my book *Plastic Surgery* being written and published during the war years I could not obtain permission from Prof. Francis Burian of Prague to reproduce three of his cases published in his book *Chirurgia Plastica* (1935). They are: (1) A case of Italian method in nasal plastic, p. 190–191; (2) repair of a cheek defect, p. 266; and (3) reconstruction of thumb, p. 353, *a*, *b*, and *c*. These illustrations will be replaced by original photographs in future editions.